

MARINE RECORD

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PRODUCTION OF BESSEMER STEEL.

The American Iron and Steel Association has collected from the manufacturers complete statistics of the production of Bessemer steel ingots and Bessemer steel rails in the United States in 1896 except the comparatively small quantity of standard rails and street rails which were made by manufacturers from purchased blooms. In the statistics of ingots produced is included the production of the Flewclapp-Griffiths and Robert-Bessemer plants and also the production of steel castings by all Bessemer works and the single Walrand-Legenisel plant, of Chicago.

The total production of Bessemer steel ingots in 1896 was 3,919,906 gross tons, against 4,909,128 tons in 1895, showing a decrease in 1896 of 989,222 tons, or over 20 per cent. The production of 1895 was much the largest in the history of this country. The production of all kinds of Bessemer steel ingots in 1896 was 1,102,892 gross tons, against a similar production of 1,266,081 tons in 1895; 904,020 tons in 1894; 1,036,353 in 1893, and 1,458,732 tons in 1892.

SUEZ CANAL TRAFFIC IN 1896.

The business of the year just passed was the most remunerative ever experienced by the Suez Canal, the traffic aggregating almost \$16,000,000. According to a report of Consul-General Penfield at Cairo to the State Department Great Britain supplied two-thirds of the traffic, and he declares it a regrettable fact that not one ship under the United States flag passed through the canal during 1896, although in 1895 four American warships and yachts showed the Stars and Stripes in making the passage. The total number of steamers using the canal last year was 3,407, having a tonnage of 8,594,307, and the traffic receipts were \$15,930,435. The receipts were abnormally enhanced by the number of Italian soldiers going back and forth to the Abyssinian war.

AN AMERICAN BARK 133 YEARS OLD.

The bark True Love, built in Philadelphia in 1764, has been found to be yet afloat as a coal hulk, engaged in active trade at the age of 133 years. This discovery was made through a casualty recorded in the Maritime Exchange as follows: True Love, barge, was in collision with schooner Gravesend of London, off Gravesend, and had port quarter damaged to such an extent that it was found necessary to tow her into Rochester, and she arrived at that place in charge of the tug Commerce. According to the Philadelphia Press, it was the year 1764 when the old craft was launched on the banks of the Delaware, although her length was but 96 feet 8 inches, she was then the largest vessel of commerce that the Delaware had ever floated. Contrast this with the dimensions of the huge Hamburg-American Packet Co.'s steamship Pennsylvania, the latest addition to commerce, whose length is 587 feet, while the new White Star liner building is 704 feet long, and one will be amazed with the magnitude of the modern ship of commerce. The True Love, upon being completed, sailed from Philadelphia early in 1765, and no record is had of her return, until August 22, 1873, when at the age of 109 years she came into port from Ivigut, Greenland, with a cargo of kyrolite, in command of Capt. Thomas Nathaniel, consigned to B. Crowley. She was discharged and surveyed by the American Lloyds in October, 1873, and sailed again. Upon her arrival shortly afterward in London, she was sold and turned into a coal hulk, in which capacity she still serves.

The dimensions of this famous True Love are: Length, 96 feet 8 inches; beam, 26 feet, 9 inches; depth of hold, 17 feet. She measured 296 tons register.

The discovery that there was still afloat a Philadelphia-built vessel of such an age has caused much comment on the floors of the Maritime Exchange, and some shipping men are of the opinion that this old craft should, if possible, be purchased as a relic. Records show that the True Love was for a time owned in Hull, England, by G. Dahl, previous to her purchase by John S. Ward, of London, and during that time she was engaged in the Baltic trade.

ST. MARY'S MINERAL LAND.

The annual report of St. Mary's Canal Mineral Land Company for 1896 shows: Totals sales, land and timber, \$5,347; cash on hand December 31, \$33,171; profit and loss deficit, \$333,190; total liabilities, \$1,032,621. The company's real estate now consists of 112,452 acres, besides mineral rights on 6,662 additional acres. The report says: "Although the valuation has been reduced nearly one-half in the past ten years, the taxes assessed are practically



CAPT. JOHN BERMINGHAM,
U. S. Supervising Inspector of Steam Vessels, First District,
San Francisco, California.
(See page 6).

the same, owing to continuous increase in rate. The recent purchase of mining properties south of Portage Lake and the prospect of their development make it not unreasonable to expect a somewhat more active demand for wood and timber during the present year. But all of the large mines have discontinued use of wood for fuel, coal being much cheaper, and of late years our markets have been flooded with Canadian lumber. These two causes have seriously affected our interests. It is hoped and expected that the new tariff bill will levy a satisfactory duty on manufactured lumber and logs, and that this will restore to us the natural market for our hardwood timber. There is no change to report in regard to the Pacific Copper Company, which has \$24,298.11 in its treasury, and no liabilities."

AIDS TO NAVIGATION.

(Communicated.)

On the supposition that "there can not be too many aids to navigation," the distribution of such aids has lustily been going on, so that now almost every peak and point on the great lakes has got a lighthouse with flag signal attached to it, not to mention shoals provided with lightvessels. Some districts, of course, have been more favored than others in the general distribution of aids, as, for instance, Waugoshance passage, boasting four lights and as many flag signals, of which three are located within a radius of two miles, vieing with one another for the patronage of vessels passing.

Like so many toys, lighthouses and lightvessels have been disposed of seemingly without discrimination. Lighthouses are found where lightships would be better, and lightships where gas and bell buoys would suffice. The absence of bell buoys is a noticeable feature on the great lakes, there being only one bell buoy in all, namely, on Graham Shoal.

Looking at Pilot Chart No. 1415, U. S. H. O., the system of lights on the great lakes affords a grand spectacle, but when put to the test the system proves a failure. This test is thick weather, when lights cease to be aids and flag signals also, if not approachable close to from all sides. Therefore in thick weather the lakes are practically without aids.

As long as vessels are guarded by safety curves they need no other aid, but when leaving the safety curve the point of departure must be known. This knowledge can be obtained only from buoys placed at the safety curve, and by no other means. By following the direction of the safety curve up by the lead, the buoy is found, and thus the turning point or point of departure and the means for verifying position. The lack of such buoys is the great defect in the system of lights and buoyage. Not flag signals, but fog buoys, are wanted, and the more for buoys are put in the less life-saving station will be required.

The lack of fog buoys is so great a defect that vessels leaving port for a short excursion and being overtaken by fog have not been able to return into port, as happened last summer at Milwaukee to prominent parties aboard their own steamer, and to their disgust being compelled to stay out twelve hours, until the weather cleared up. The lack of fog buoys for verifying position in thick weather is not only the cause of disappointment, but of disaster to vessels approaching straits, channels, harbors, etc. In front of every harbor a fog buoy should be placed at the safety curve, and also at the following places:

At the 20-fathom curve, SSE. $\frac{1}{2}$ E., from Pilot Island, Lake Michigan, to mark the approach to Porte des Mortes (Death's Door); at the 20-fathom curve south of Poverty Island, to mark the entrance into Green Bay; at the 20-fathom curve past Seul Choix Point, to mark the turning point from which to start on the course past Squaw Island; at the 40-fathom curve past Point Betsey, to mark the turning point for Manitou passage; at the 20-fathom curve past Forty-Mile Point, Lake Huron, to mark the approach into the south channel; at the 10-fathom curve north of Fort Gratiot, to mark the point of departure for the lightship; at the 10-fathom curve east of Pelee Spit (Dummy), Lake Erie, to mark the starting point for the "Dummy"; at the 9-fathom curve past Abino Point, to mark the approach of Buffalo, etc.

There are a number of other places not enumerated here where fog buoys would be of great service. To easily find them and to distinguish them from buoys marking obstacles fog buoys ought to have two bells of different pitch.

JOHN MAURICE.

NEWS AROUND THE LAKES.

CHICAGO.

Special correspondence to the Marine Record.

Capt. J. S. Dunham and wife left here Saturday for California on a pleasure trip.

The Goodrich Transportation Co.'s steamer City of Ludington is receiving considerable repairs to her hull and decks.

The Independent Tug Line had the steamer A. C. Van Raalte in their floating dry dock for repairs to her bottom and some calking and ironing.

The Dunham Towing & Wrecking Co. towed the steamer Iroquois to the Iowa and City elevators and the whaleback barge 134 to the Iowa and St. Paul elevators to load grain.

The many friends of Geo. Cameron of the Dunham Towing & Wrecking Co. will be sorry to learn that he is confined to his bed with an attack of typhoid fever. I wish him a speedy recovery to good health.

Hausler & Lutz of South Chicago have one of their dredges and pile drivers here. They are engaged in driving piles for the foundation for a new storage warehouse; also for a new dock between Clark street and La Salle avenue for the Anchor Line.

The steamer Iroquois and the whaleback barge No. 134 were chartered last week for rye to Buffalo. The rate was not made public but it is rumored that the rate of 2½ cents on corn, which has been held up some considerable time, was not maintained.

The South Chicago Ship Chandlery Co. are building a new ship-chandlery store at South Chicago. Four doors east of their present store. It is to be a three-story building. Capt. James Channon, the well-known manager of the company will feel not a little proud of the new store when completed and all his friends wish him continuous success in it.

Mr. Wilson of the hydrgraphic office, Chicago, delivered a lecture to the members of branch 3 of the Shipmasters' Association and their friends at their hall over the Le Grand Hotel, corner Kinzie and Wells streets on Wednesday afternoon, February 24th, on "Variation and Deviation of the Compass." There was a large attendance and the lecturer ably expounded the subject to a very attentive audience.

Hausler & Lutz are building a steam yacht for Albert Mohr of Mohr & Sons, boiler makers, Chicago. Her dimensions are: 55 feet over all, 11 feet beam, 4 feet 6 inches hold. She will have a high pressure engine, 8x10 and a tubular boiler to be allowed 250 lbs. steam pressure, which is being built by Mohr & Sons. Her model is very handsome and she has very fine lines and it is expected she will run not less than 14 miles per hour. She will be completed about April 15 next. Hausler & Lutz are also building for their own use a scow 100 feet long, 28 feet beam, 8 feet hold. She is being built entirely of Washington fir.

DETROIT.

Special correspondence to the Marine Record.

S. F. Hodge & Co. report nothing very new of late. They are getting out some minor work at the present in the marine line, but nothing special.

Thomas Adams, George H. Adams, John I. Adams, and Jesse H. Farwell are now located in their new office in the Parker & Miller building, at the foot of Griswold street.

John C. Shaw was called to Ludington last week, to represent the car ferry Pere Marquette, which sunk the tug Thomas W. Ferry at that port. Mr. Shaw is trying to settle the case for the car ferry, if satisfactory terms can be agreed upon.

The steamer State of Michigan is lying at Amherstburg, where such repairs as were rendered necessary by her rough experience with the ice on February 22, are being made. Grant Gummmond reiterates his determination to push through to Cleveland as early as possible.

The ferry steamers have had very little difficulty in running between Detroit and Windsor this winter, and have never been seriously impeded. What slight repairs were needed by the fleet have been pretty much done, except painting.

C. E. Ruskin, manager of the Marine Record, arrived in Detroit Monday night, and is at the Cadillac. Mr. Ruskin is looking up the Record's Detroit interests, and will undoubtedly meet with good success. He will remain in town two or three days.

If the condition of the ice in Lake Erie is such as to warrant it, the D. & C. S. N. Co. will probably start one of their steamers for Cleveland on March 15. No official announcement has yet been made, but it is known that was the intention of the management. A. A. Schantz, general passenger agent of the D. & C. Line, is engaged in his usual work of getting out advertising matter for this season's business. Already inklings of the tourist trade are beginning to come in, and the D. & C. Line looks for a very large year's business.

The Canadian steamer Imperial, owned by the Walkers of Walkerville, is receiving a compound engine, on the Canadian side of the river. The Walkers were obliged to buy this steamer to protect an interest they had in her, and she has since proved a very fair paying investment. She is on the Windsor and Pelee Island route, and will in a few years build up a firm trade to this fertile island. The

island is something of a summer resort, and has club houses besides, and this steamer is the only regular boat running there.

If the business in sight for the Detroit Boat Works all materializes, that firm will have more than they could possibly attend to in a year. They have received inquiries for prices, etc., for something like 50 steam yachts, and their business in life rafts, shells, life boats, naphtha launches, and all lines, except yawl boats, is fair. Some eastern orders, and some local orders for shells are being filled at the present time, and a couple of launches are building. Mr. Ballin, in speaking of the situation to the Record, said: "Money is close, but there is lots of inquiry. We have just spent \$10 in postage stamps, in answering inquiries, etc., lately received. Our business in building of the Clark life raft for this year bids fair to be very large."

PORT HURON.

Special Correspondence to the Marine Record.

Capt. Chris. Smith and wife are visiting at Bay City and Saginaw.

Capt. D. N. Runnels and wife attend the inauguration of President McKinley this week.

Twin daughters were born to Mr. and Mrs. R. A. Campbell, Thursday last. Campbell is chief engineer of the O. D. Conger.

The marine clerk at the custom house reports that no vessel transfers are being made this winter. It is the dullest season in years.

Capt. E. Fitzgerald, who has been seriously ill for some time past, is now reported as being on the improve and is expected around again in a few days.

The steamers Toledo and Cole will run alternate days from Port Huron to Toledo this summer. The steamer Greyhound will run between Detroit and Port Huron daily.

The steamer Dormer has discontinued her trips between Port Huron and Marine City. The river is blocked with ice to a point opposite St. Clair and heavy ice is still running.

It is yet questionable whether we get the river railroad from Detroit here this year. Certainly if the road is built it will knock out some of the vessel traffic on the river, a feature The Record don't want to countenance any more than its correspondents.

Capt. George Howes, formerly of this city and master of the tug J. W. Westcott for ten years in the employ of Alger, Smith & Co., Detroit, has shuffled off this mortal coil, via the neck tie route. Domestic unpleasantness caught the victim.

Capt. Chris. Smith reports that the rebuilding of the cabins of the L. R. Doty which has recently been completed, made necessary by the \$10,000 damage by fire in December last, has given the steamer more elegant cabins. The work was done at Milwaukee, and the steamer returned to South Chicago where she is now loaded with 102,000 bushels of corn.

If permission is granted by the war department a new bridge will be erected at Mansfield street, the cost for a wooden structure is estimated at \$2,199.40.

In the circuit court on Saturday the jury in the case of Capt. Harvey McQueen versus the F. & P. M. R. R. Co. brought in a verdict in favor of the defendants. Capt. McQueen sued for a verdict of \$10,000, but was non-suited.

CLEVELAND.

Special correspondence to the Marine Record.

Capt. Farnwell, one of the oldest lake navigators, died this week at Sandusky. He leaves a widow and three daughters.

At the yards of the Cleveland Ship Building Co. the keel has been laid for the new steamer contracted for by Wolvin et al, of Duluth.

The weather during the last few days has got soft and mild again, but there are as yet no indications of boats getting ready to fit out at this port.

John H. Bartow and C. P. Gilchrist, vessel agents, have dissolved partnership. Mr. Bartow will continue in charge of the firm's business. Mr. Gilchrist will remain in the vessel business, along the same lines.

Colonel Smith, corps of engineers, U. S. A., leaves this week for a vacation. Not having enjoyed the best of health lately, the colonel will rusticate for a while in Georgia.

The Cleveland Dry-Dock Co. have in this week the whaleback barge No. 126 for eleven new bottom plates and further overhauling. Dry-dock work is slow but the Cleveland always seems to get its full share.

It is now expected that the D. & C. Line will make an attempt to open navigation between Detroit and this port on the 15th inst. If this weather continues it will be easy for the company to do so.

The address recently delivered by Mr. Oldham before the Civil Engineers' Club on the "Structural Strength of Ships and Improved Arrangements for Repairing Them without Diminution of Their Strength" has been printed in pamphlet form.

At the yards of the Globe Iron Works Co., union and non-union men are having a squabble, with the result that the officers have shut down the works temporarily. It now appears that the union men are determined to force skilled or unskilled labor entirely out of the works and will not resume employment until they have accomplished

their mission. In the meantime the employers have concluded to stop all building and especially so as their contracts embody the strike clause.

There is not much work going on this week at the yard of the Ship Owners' Dry-Dock Co. beyond the docking of some small fry and furthermore future orders seem not to be too brisk. However, when the fitting out season sets in the docks are liable to be run to their full capacity.

Relative to freight there is nothing new here this week. Coal is an unknown factor as is grain, and iron ore is not yet being mentioned. There may, however, be something doing in lumber but if so it has not yet come to the surface and therefore it is simply useless guessing or writing a lengthy item which summed up would mean nothing.

Contrary to general expectation, based upon apparent indifference on the part of the underwriters chiefly interested, there is to be an issue of the Inland Lloyd's Vessel Register for 1897. This was decided upon at a gathering of lake underwriters in New York city some days ago, Frank L. Vance says. The issue will be made without the customary formality of a general survey of vessels at the different lake ports. A large amount of money was expended in that direction during the winters of 1895 and 1896, and the ratings then made will hold good on all but about 5 per cent. of the vessels embraced in the inspections of those two seasons. These vessels are all known and can easily be looked after by the inspectors of the general agencies constituting the Inland Lloyds management. This will limit the work of preparation to a revision of the register of 1896, the addition of new vessels which went into commission during the year, and such changes in the classification of the few vessels of doubtful condition referred to above as the inspectors may report necessary.

MARINE CITY.

Special Correspondence to the Marine Record.

Captains John and Alfred Mitchell, of Cleveland, were in Marine City Friday, attending the funeral of Capt. Peterson.

Capt. Chris. Peterson, of the steamer Jno. J. McWilliams, died at his home in this city, February 24th. He had been ill for about four months and his death was a sad surprise to his many friends. His funeral was conducted under the auspices of Sam Ward Lodge F. A. M. and lodges at Port Huron, Algonac, Cleveland, Buffalo and Wallaceburg were represented. His career as a master was a very successful one. Starting about eight years ago in the William T. Gratwick, he forged his way rapidly to the front, sailing last season the largest boat in the Mitchell fleet, the McWilliams.

Masters residing in or near this port have been appointed to the following boats: St. Lawrence, Capt. A. Senghas; John J. Hill, Capt. Jno. Andrews; Geo. J. Gould, Capt. Walter Cottrell; Toltec, Capt. James Taylor; Aztec, James Baby; W. H. Sawyer, Capt. John Jenkins; Kate Buttironi, Capt. Chas. Norton; Santa Maria, Capt. David Carrier; Mohegan, Capt. Wm. Hagan; Cherokee, Capt. Ashley; Mark Hopkins, Capt. Jule Ward; Passenger steamer Toledo, Capt. Burt Baker; Wotan, Capt. Jos. Shackett; Tempest, No. 1, Capt. George Lester; Tempest, No. 2, Capt. Joe Lowes; George King, Capt. W. Burns; Sparta, Capt. Johnson; Britanic, Capt. Davis; George W. Roby, Capt. William Smith; Jim Sheriffs, Capt. A. R. Bell; William F. Sauber, Capt. Harvey Stewart; Chas. F. Bielman, Capt. Fred Stewart; William H. Gratwick, No. 2, Capt. M. P. Parsons; Pathfinder, Capt. Wilson McGregor; Lagonda, Capt. Chas. Galton; New Orleans, Capt. W. Cunningham; Ionia, Capt. W. W. Stewart; Vigilant, Capt. Ed. Allum; Torrent, Capt. Alex. Cattanach; Nellie Torrent, Capt. Jno. Randall; Ed. Smith, No. 1, Capt. Chas. D. Miller; Fern, John A. Miller; Maine, Capt. G. W. Case; D. F. Rose, Capt. Cass Saph. Barges:—Joseph Paige, Capt. S. Rose; Martha, Farrel Crowley; A. C. Tuxbury, Capt. John Jones; C. E. Redfern, Capt. Powers; W. H. Hawkins, Capt. John B. B. Atwell; Uranus, Capt. Jno. Balfour; Ningoe, Capt. A. Snellgrove; Miztec, Capt. H. S. Shackett; Zapotec, Capt. Peter Thompson; Maria Martin, Capt. Wm. Rouvel; Homer, Capt. Ramer Bell; James Mowatt, Capt. O. P. M. Titus; Camden, Capt. John Van Rensselaer; F. M. Knapp, Capt. Jno. Powell; Emma L. Coyne, Capt. Henry Lester; Teutonia, W. Meldrum; Troy, Capt. Diem; Buckeye State, Capt. Angel; Boscobel, Capt. Young; George Nester, Capt. Jno. Beaclair; Lancy Simms, Capt. J. Beebe; W. W. Stewart, Capt. Kemis; Thomas Gawn, Capt. J. Lawrence; Dayton, Capt. M. P. Lester; Lucinda Lozen, Capt. Wm. Maxwell; John M. Hutchinson, Capt. Holland.

TOLEDO.

Special Correspondence to the Marine Record.

On Monday evening the friends of Capt. H. N. Jex, his wife, daughter Ina, and son Bert, surprised them at their home at 652 Leonard street. The captain will soon leave for Port Huron, from which place he will sail this summer, and the pleasant affair was arranged as a farewell party. The members of the U. S. Club were the promoters of the party and a jolly time was the result.

The Bradley line steamer J. S. Fay was docked at the yards of the Craig Ship Building Co. for heavy repairs and is now almost completed, except a little more calking. The Volunteer will then be started on and be given some new rail, part new decks and calked, to be followed by the Gettysburg, for a general overhauling, etc. The company have also several sail yachts to overhaul and partially rebuild before the season opens, and to overhaul a dredge

and two scows for Breyman Bros., to be used on their late large Boston contract. There are now at the yards four new naphtha launches, built for different parties this winter and ready for delivery, besides other minor work on hand.

At the yards of A. Gilmore's Sons, a contract has just been closed to build two scows for Breyman Bros., contractors, to be used on their Boston job. The dimensions of these new wooden scows are to be 135 feet in length, 34 feet beam and 13 feet deep, to have a capacity of 800 cubic yards. There is to be exceptional good work put into these craft, planked with four-inch oak, all fastenings and spikes to be galvanized, center bulkheads and very heavy oak gunwales, fastened with 1½ inch iron. As the scows will undergo rough usage they will be built to stand any amount of hard treatment and the owners are certain that Gilmore's Sons will not only put in faithful work but turn over to them craft that when completed will do credit to lake shipbuilding. They are to be finished June 1st and to cost about \$24,000 for the two.

MANITOWOC.

Special correspondence to the Marine Record.

Burger & Burger are building a tug for Gunderson Bros. of Sheboygan, 50 feet long, 12 feet beam, 6 feet hold. They have had four U. S. government dump scows in dock for repairs and recalking.

Hausler & Lutz of South Chicago have a contract with the U. S. government to build an extension, 500 feet in length, to the south pier at this port. They will begin work on it as early in the spring as possible.

Manitowoc has received quite a boom recently by the arrival of new railroad companies which have built a new grain elevator and large store houses and coal docks; also a large new slip near the south pier, where the new steamer Pere Marquette loads and unloads her cargo, comprising 30 freight cars.

At H. B. & G. B. Burgers' shipyard the Goodrich Transportation Co.'s side-wheel steamer Sheboygan is in dock receiving a general rebuild, comprising new keelsons, 50 new frames amidships, new bed timbers, new ceiling, 125 feet amidships, new main deck frames, and deck, new overhead arches, new plank shear stringers, stanchions, covering board and rail between decks, new steam, new top-side plank from the light water mark up, considerable work on promenade deck and refastening and recalking all over.

FLOTSAM, JETSAM AND LAGAN.

E. J. Firth, of Philadelphia, will formulate a plan to be presented to Congress for the benefit of American ocean commerce in steamships.

A number of Dunn stockless anchors, patented by Lieut. Dunn, of the U. S. Navy, have been constructed by the Solid Steel Co., of Alliance, Ohio.

F. W. Wheeler & Co. have filed a trust mortgage for \$250,000, covering the steel ship building plant, to the Union Trust Co., Detroit, in accordance with an agreement reached with the creditors.

The Philadelphia Maritime Journal is furnishing its readers with lists of sailing vessels owned in the United States and flying the American flag, together with the hailing ports. It gives a complete list of 137 ships, 294 barks and barkentines and 55 brigs and brigantines.

A London paper says that the man who devotes a week to advertising, and then rails at the returns, is like the office boy who studied law two days and then said: "The law ain't what it's cracked up to be. I'm sorry I learned it."

Capt. George L. Norton, the editor of the Marine Journal, has not changed much in appearance in the last twelve years, and as Capt. Norton believes in the old saying that a man is no older than he feels, he would pass for fifty years of age.—American Shipbuilder.

See's piston with adjustable shoe and follower is applicable to horizontal and other engines. It takes the wear at the proper point and guides without rail rod. Is in use on the United States cruisers Baltimore, Newark, Philadelphia, and the Providence and Stonington Line steamboat Connecticut. Further information upon the subject may be had by writing to Horace See, 1 Broadway, New York.

Great Britain's Admiralty Court confesses to not knowing what a sailing ship is. In a recent collision case on appeal it decided that a barge on which a jury sail had been rigged to assist the rowers was a sailing vessel, but added that when the question of what was a sailing ship came to be decided it would have to be very carefully considered.

Thorpe, Platt & Co., representing the Thornycroft Marine Water Tube Boiler Co., have secured contracts from the Navy Department for boilers for four of the new torpedo boats; one of 20 knots, 2 of 22½ and one of 30 knots. The Union Iron Works, San Francisco, to build one, Chas. Hillman & Son, Philadelphia, one, and Wolff & Zwicker, Portland, Ore., to build two. The boilers will be built at these respective plants.

The administration of the Bureau Veritas has published the list of maritime disasters, reported during the month of December, 1896, concerning all flags: Sailing Vessels Reported Lost—14 American, 1 Austrian, 1 Brazilian, 22 British, 3 Danish, 12 French, 4 German, 1 Greek, 4 Italian, 23 Norwegian, 2 Russian, 5 Swedish; total, 92. In this number are included 5 vessels reported missing. Steamers Reported Lost—2 Belgian, 6 British, 1 Chinese, 4 French, 2 German, 2 Norwegian, 1 Portuguese, 1 Russian, 2 Spanish, 2 Swedish; total, 23. In this number are included 2

steamers reported missing. Causes of Losses—Sailing Vessels—Stranding, 47; collisions, 4; fire, 1; foundered, 10, abandoned, 19; condemned, 6; missing, 5; total, 92. Steamers—Stranding, 13; collision, 1; foundered, 4; abandoned, 1; condemned, 2; missing, 2; total, 23.

W. J. B. Jenney, a Chicago architect, has been notified by F. T. Gates, of New York, president of the Bessemer Steamer Co., that the steamer built at Wheeler's West Bay City shipyard for the Rockefeller ore interests is to be named in his honor, as a mark of appreciation of the architect's services in connection with the invention and introduction of the lofty steel skeleton construction of buildings. The barge building at the yards of the Globe Iron Works Co. will be named after Sidney G. Thomas, one of the principal inventors of the basic Bessemer steel process.

The work of construction on the two Japanese cruisers—one at the Messrs. Cramps, at Philadelphia, and one at the Union Iron Works, San Francisco—is under the direct supervision of Capt. I. Iakurai, of the Royal Japanese Navy, who, on Feb. 25, was in Philadelphia, having returned from a trip to California. The work in Philadelphia is being pushed as rapidly as possible, and already the flat keel has been laid and the work of riveting on the vertical keel begun, while the foundries are working to their fullest capacity, turning out steel plates, ribs and deck braces, etc.

LIST OF APPOINTMENT OF OFFICERS.

R. R. Rhodes, Cleveland, steamer Yale, Captain, John Coulten; chief engineer, Harry Stone; Neshoto, Captain, W. H. Humphrey, engineer, J. P. Klasun; R. R. Rhodes, Captain, P. Dowdell; engineer, Charles Beebe.

Steamer City of Parry Sound—E. Walton, master; J. Mason, first officer; J. L. Smith, chief engineer; A. Hicks, assistant engineer; H. A. Cume, purser; E. G. Simpson, steward.

G. W. Transit Co., Steamer Majestic—R. M. Campbell, master; W. Playter, first officer; W. Lewis, chief engineer; S. Hewitt, purser; C. Lyman, steward.

Steamer Pacific—R. D. Foote, master; J. McGowan, first officer; J. W. Aston, chief engineer; W. Martin, assistant engineer; J. Belcher, purser; J. Dyon, steward.

Steamer Northern Belle—C. Jacques, master; F. Cleland, chief engineer; H. Arnold, purser and steward.

North Shore Navigation Co., Steamer City of Collingwood—W. J. Bassett, master; W. J. McQuade, first officer; C. Robertson, chief engineer; W. N. Storey, purser; R. Matters, steward.

Steamer City of Midland—F. X. Lafrance, master; J. Black, first officer; W. Whipples, chief engineer; P. L. Patterson, purser; S. Fitzgerald, steward.

Steamer City of Toronto—A. C. Cameron, master; A. Belrose, first officer; D. McQuade, chief engineer and purser; H. Myler, assistant engineer; J. McQuire, steward.

The captains and engineers appointed for steamers of the Lake Erie Transportation Co., A. W. Colton, of Toledo, manager, are as follows: Steamer George J. Gould—Henry Root, captain; James Miller, engineer. Steamer S. C. Reynolds—Walter M. Cottrell, captain; George Butler, engineer. Steamer Russel Sage—T. C. Herrick, captain; Joseph Kohlbrenner, engineer. Steamer John C. Gault—C. H. Lewis, captain; John Busted, engineer.

W. C. Richardson, Cleveland. Steamer Samuel Mitchell—Thomas Wilford, master; James Clancey, engineer. Steamer J. H. Wade—Chas. M. Swartwood, master; Geo. McMonagle, engineer. Steamer J. H. Devereux—Chas. R. Cleveland, master; Geo. B. Milne, engineer. Steamer Wm. Chisholm—Richard Call, master; Silas H. Hunter, engineer. Steamer Roumania—Lewis W. Stone, master; Martin J. Burns, engineer. Steamer J. H. Outhwaite—Enos J. Burke, master; R. A. Davidson, engineer. Steamer Iroquois—Thomas Jones, master; E. W. Prince, engineer. Schooner John J. Barlum—John McKeighan, master. Schooner H. A. Barr—Harry W. Phillips, master.

The Matthews Line, Toronto, Ont.: Prop. Niagara—James Morgan, master; John Gray, engineer. Prop. Clinton—John Joyce, master; P. J. Carr, engineer. Schooner Emerald—John McGiffin, master. Schooner Clara Youell—Not yet appointed. Barge Lisgar—John Fahey, master. Barge Grimsby—Grant Horn, master.

Hawgood & Avery Transit Co., Cleveland: Steamer S. S. Curry—Geo. Robarge, master; James Norton, engineer. Steamer Geo. F. Williams—T. C. Ellis, master; R. B. Buchanan, engineer. Steamer Servia—Fred Ahlstrom, master; Daniel D. Eagan, engineer. Steamer Geo. W. Morley—James Owen, master; John Chapman, engineer. Schooner H. A. Hawgood—Philip Deroy, master. Schooner Moravia—A. C. Hansen, master. Schooner F. D. Ewen—Fred Watson, master.

Cleveland Cliffs Iron Co., Cleveland: Steamer Pontiac—James B. Lowe, master; Thos. B. Kelley, engineer. Steamer Frontenac—S. N. Murphy, master; E. V. Barrey, engineer. Steamer Cadillac—Geo. A. Symes, master; T. J. Reese, engineer. Steamer Pioneer—S. A. Lyons, master; E. J. Jenkins, engineer. Steamer Kaliyuga—A. R. Robinson, master; Thos. Blaine, engineer. Steamer Fontana—A. C. Reimere, master.

Wm. G. Mather, managing owner: Ed. S. Pease—Thos. Sloan, master. Planet—Frank Parrsons, master.

J. D. Peterson, Huron, O.: Steamer James C. Lockwood—Geo. W. Brown, manager; J. D. Peterson, master; Geo. W. Curtis, engineer.

John T. Hutchinson, Cleveland: St. Germanic—M. H. Place, master; Walter Thorn, engineer. Queen of the West—C. J. Debeau, master; J. Hickey, engineer. Rube

Richards—L. Y. Vosburgh, master. E. C. Hutchinson—T. K. Woodward, master. May Richards—J. Martin, master. Steamer Glasgow—J. McNeff, master; C. R. Price, engineer.

D. C. Whitney, Detroit: Steamer E. W. Oglebay—W. H. Hutcheson, master; Ed. Egan, engineer. Steamer Merida—John Ivers, master; Jas. Balfour, engineer. Steamer Tampa—John Leonard, master; Chas. Murett, engineer. Steamer Mecosta—A. C. May, master; Owen Williams, engineer. Steamer Lansing—Chas. Miner, master; Jos. Coveyan, engineer. Steamer D. C. Whitney—R. H. Sunderland, master; Jos. Lacy, engineer. Steamer Nipigon—Edward July, master; Chas. Francomb, engineer. Barge Ashland—Geo. Dennis, master. Barge Wayne—A. M. Elliott, master. Barge Melbourne—Geo. Cooper, master.

W. H. Loutit, Grand Haven, Mich.: Steamer Pent-launch—Thos. McCambridge, master; C. Ball, engineer.

Northwestern Transportation Co., Detroit, Mich.: Steamer H. H. Brown—E. C. Gathfield, master; John H. Hand, engineer. Steamer Fayette Brown—J. W. Nicholson, master; Nickolas Anderson, engineer. Steamer S. R. Kirby—D. Girardin, master; Wm. Watts, engineer. Steamer E. M. Peck—C. H. Chamberlin, master; Emil Mercier, engineer. Barge G. E. Hartnell—Jno. F. Jones, master.

Roby Transportation Co., Detroit, Mich.: Steamer L. C. Waldo—Jno. Duddleson, master; Jno. Collins, engineer.

Ogdensburg Trans. Co., Ogdensburg, N. Y.: J. R. Langdon—Harvey Brown, master; D. G. Costello, engineer. Gov. Smith—W. S. Shay, master; J. N. Phillips, engineer. A. McVittie—W. H. Williams, master; A. D. Houghton, engineer. H. R. James—James Owens, master; Jas. Turnbull, engineer. F. H. Prince—D. A. Kiah, master; R. Chestnut, engineer. W. J. Averell—W. D. Wait, master; J. Alexander, engineer. W. A. Haskell—E. B. Shay, master; Maurice Gore, engineer. W. L. Frost—J. W. Goodrich, master; J. Chestnut, engineer.

Wisconsin S. S. Co., Milwaukee, Wis.: F. Schlesinger—D. P. Craine, master; A. R. Fortier, engineer. Geo. H. Dyer—A. E. McGregor, master; Geo. R. Robinson, engineer.

Milwaukee S. S. Co., Milwaukee, Wis.: F. L. Vance—E. B. Marquette, master; Charles Wilcox, engineer. R. P. Flower—F. W. Van Patton, master; D. W. Darcy, engineer.

Lake Michigan & Lake Superior Transportation Co.: Steamer Manitou—Allan McIntyre, captain; R. L. Peck, chief engineer; H. L. Seaton, chief purser; W. B. Sprague, chief steward. Steamer City of Duluth—Donald MacLean, captain; Henry Chalk, chief engineer; C. L. Simmons, purser. Steamer Purliss—H. C. Page, captain; J. R. Bennett, chief engineer; F. J. Carlin, purser; J. M. McCoig, steward. Steamer City of Traverse—J. M. Twichell, captain; Edward Meek, chief engineer; L. B. Hazlett, purser. Steamer Jay Gould—Joseph White, captain; D. H. Robertson, chief engineer; Hawkin Brooks, purser.

Wilson Transit Co., Cleveland: Steamer Andrew Carnegie—B. H. Jones, master; Fred Harmon, engineer. Steamer W. D. Rees—W. W. Dawley, master; Frank C. Stoeber, engineer. Steamer Yuma—Danl. Buie, master; J. Skelly, engineer. Steamer Spokane—C. C. Tousley, master; James F. Derrig, engineer. Steamer Yakima—A. M. Shephard, master; James McQuirk, engineer. Steamer Sitka—Chas. A. Benham, master; John Walsh, engineer. Steamer Wallula—Alex. Forbes, master; Henry Burton, engineer. Steamer C. Tower, Jr.—Geo. Brock, master; Peter Lamar, engineer. Schooner Yukon—Wm. Forbes, master.

Ashley & Dustin, Detroit: Steamer Frank E. Kirby—A. J. Fox, master; E. Perry, engineer. Steamer Wyandotte—John Desana, master; Julius Holder, engineer.

Hadley & Burdick, Toledo, Ohio.: Steamer Panther—Henry Thompson, master; L. H. Sebastian, engineer. Barge Massasoit—A. W. Stalken, master.

Beatty Line, Sarnia, Ont.: United Empire—John McNab, master; S. Brisbin, engineer. Monarch—E. Robertson, master; E. W. McKean, engineer.

Mutual Trans. Co., Cleveland: Coralia—Wm. Cumming, master; Chas. J. Love, engineer. Corsica—Jas. A. Walsh, master; Andrew Haig, engineer. Corona—S. Murphy, master; Grant Donaldson, engineer. Cambria—Martin Johnson, master; Fred Warning, engineer. Saxon—Wm. C. Goodsell, master; Geo. E. Averill, engineer. Briton—Wm. Baxter, master; Thos. Kelley, engineer. German—S. Stratton, master; Wm. R. Donaldson, engineer. Grecian—A. C. Chapman, master; O. H. Gillmore, engineer. Roman—A. J. Greenley, master; S. A. Wells, engineer.

Alger, Smith & Co., Detroit: Propeller Volunteer—Wm. H. Rolls, master; P. B. McCabe, engineer. Propeller Gettysburg—S. H. Currie, master; W. P. Wenner, engineer. Tug Torrent—Alex. Cattanaach, master; J. M. Cronenweth, engineer.

L. M. & L. S. Trans. Co., Chicago: Steamer Manitou—Allan McIntyre, master; R. L. Peck, engineer. Steamer City of Duluth—Donald MacLean, master; Henry Chalk, engineer. Steamer Peerless—H. C. Page, master; J. R. Bennett, engineer. Steamer City of Traverse—J. M. Twichell, master; Edward Meek, engineer. Steamer Jay Gould—Joseph White, master; D. H. Robertson, engineer.

W. A. Livingstone, Detroit: Steamer Livingstone—Wm. H. Wilson, master; Alex. Morison, engineer. Steamer T. W. Palmer—Geo. Stilphen, master; Robt. B. Hodge, engineer.

CAPT. JOHN BERMINGHAM.

(Synopsis of Career.)

Capt. John Bermingham, United States Supervising Inspector of Steam Vessels for the First District, which includes all navigable waters of the United States west of the Rocky Mountains, is a man who has been interested in steam locomotion and in navigation for over half a century. The diversified experiences of his life on sea and on land would make a remarkable tale of adventure.

At seventeen years of age he was a locomotive engineer on the Philadelphia & Reading Railroad. When scarcely twenty he was second mate of a British ship on the Pacific Ocean. At the age of twenty-six he was chief engineer of one of the Pacific Mail Company's largest steamships, and at the age of thirty he was captain of a big passenger steamer on the Pacific. Subsequently he became a steamship agent and builder and owner, and a prominent citizen of San Francisco, with various and extensive business interests attesting his success.

He was born in Deerfield, Oneida County, N. Y., in 1830. Having finished the work of the public schools of Utica, he entered the machine shops of the Philadelphia & Reading Railroad. In them he served some time until he was put on the road in regular charge of a locomotive, though then but a big boy.

On the Fourth of July, 1847, he sailed from Nantucket before the mast in the ship Planter, bound for the west coast, and on Christmas day of that year he landed on the Island of Juan Fernandez, made famous as the home of Robinson Crusoe. Then for about two years the ship sailed in search of whales and out of reach of any communication from the civilized world. Occasionally stops were made at different South Sea islands, where cocoanuts were obtained from the islanders in exchange for poor tobacco. Thrilling experiences with savage islanders and with fighting whales were not uncommon. Once, while far from the ship in pursuit of whales, young Bermingham and his companions were charged upon by an infuriated leviathan, and they escaped with their lives only by jumping overboard and afterwards supporting themselves on the floating wreckage of their boat until rescued.

A murder was committed on the ship. The victim fell dead at young Bermingham's side, shot down by an irate captain. Later, when the ship put into Sydney, Australia, the captain, fearful of being tried, abandoned her temporarily, and all of the crew, glad of the opportunity and an excuse, quit the vessel. That was in 1849, when the news of the discovery of gold in California had only recently reached Australia.

Mr. Bermingham immediately shipped before the mast in the British ship Una, bound for San Francisco. During the voyage young Bermingham was promoted to the position of second officer.

Upon his arrival at San Francisco he accepted employment at transferring lumber by lighter from ships in the harbor to the shore, and, according to the prices at that time, received \$1 an hour for his labor. In August, 1850, he took a minor position in the engine-room of the steamship Republic, engaged in the San Francisco and Panama passenger trade, at that time and for twenty years thereafter a very lucrative steamship business. His earlier experience with an engine and with machinery now became of much value to him. Within six months he rose through the different grades to the rank of first assistant engineer, though he was then but twenty-one years of age.

On December 1, 1851, the Republic started from San Francisco for Panama with 500 passengers on board. When five days out a leak developed until water flowed in to the full capacity of the pumps, and the steamer had to be beached at Acapulco, where she filled. Her condition became alarming. Pearl divers were unable to locate the leak. Mr. Bermingham volunteered to dive and try to find it. He had become a proficient diver while in the South Seas. After many attempts he finally found a hole six inches long and four inches wide near the keel in fifteen feet of water. Without the use of any diving apparatus, he plugged up the hole, sawed off the plug, calked the seams and nailed on a piece of copper. But it required several hundred dives to accomplish it, for he could remain under water only a half-minute each time. The steamer was ready to sail again in thirteen days.

The passengers, before badly frightened, became demonstrative in their joy, carried the young engineer about the decks on their shoulders and paid him marked attention

during the remainder of the voyage. His unusual services were only acknowledged by the Pacific Mail Steamship Company, which voted him a gold watch, while Mr. Aspinwall, the president of the company, wrote him a letter of thanks from the board of directors.

At the age of twenty-six Mr. Bermingham was appointed chief engineer of the famous steamship Golden Age. It was while he was in charge of her engines that she made a speed record between San Francisco and Panama that has never been equaled on that route. After having been in the company's service ten years, the last five as chief engineer of the Golden Age, Mr. Bermingham left the service and gave up marine engineering to become captain of the Republic, which was still in service on the west coast of Mexico.

From command of the Republic he was promoted to superintendent of the company, and in 1864 superintended, upon the present site of the Union Iron Works at San Francisco, the building of the Del Norte, the first regular steamship ever built on the Pacific.

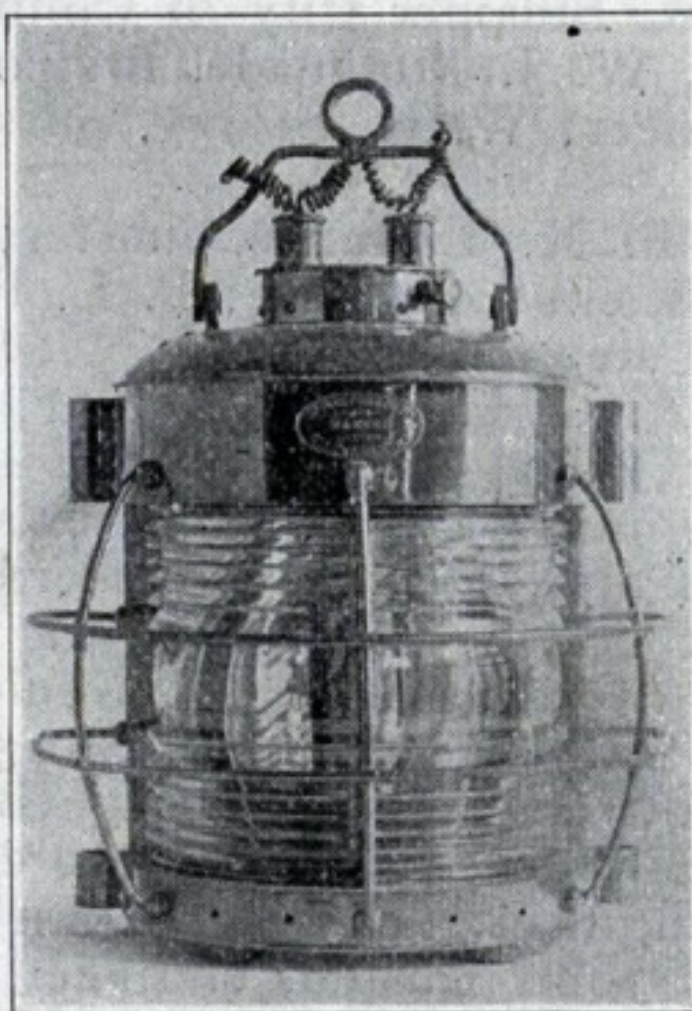
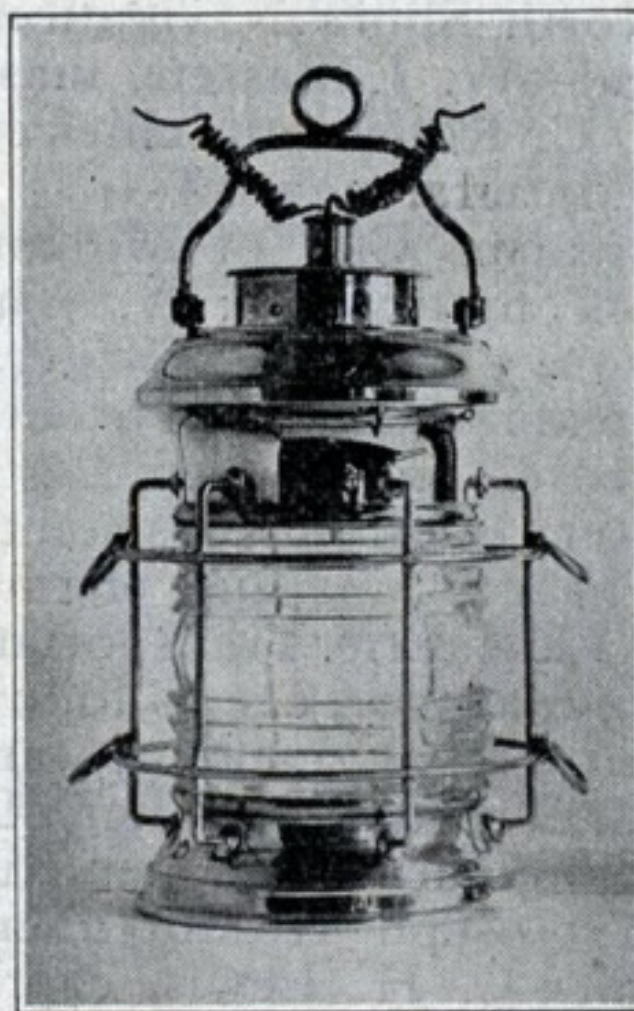
Later and for many years he was manager of the Colorado Navigation Company and of the California and Mexican Steamship Line. For the latter company in 1881 he superintended the construction of the Mexico, at that time the largest steamship ever built on the Pacific.

Since 1892 he has been Supervising Inspector of Steam Vessels and has filled the office, it is believed, to the satisfaction of all interested in steam navigation.

A NEW YORK LAMP MANUFACTURER.

(Illustrated.)

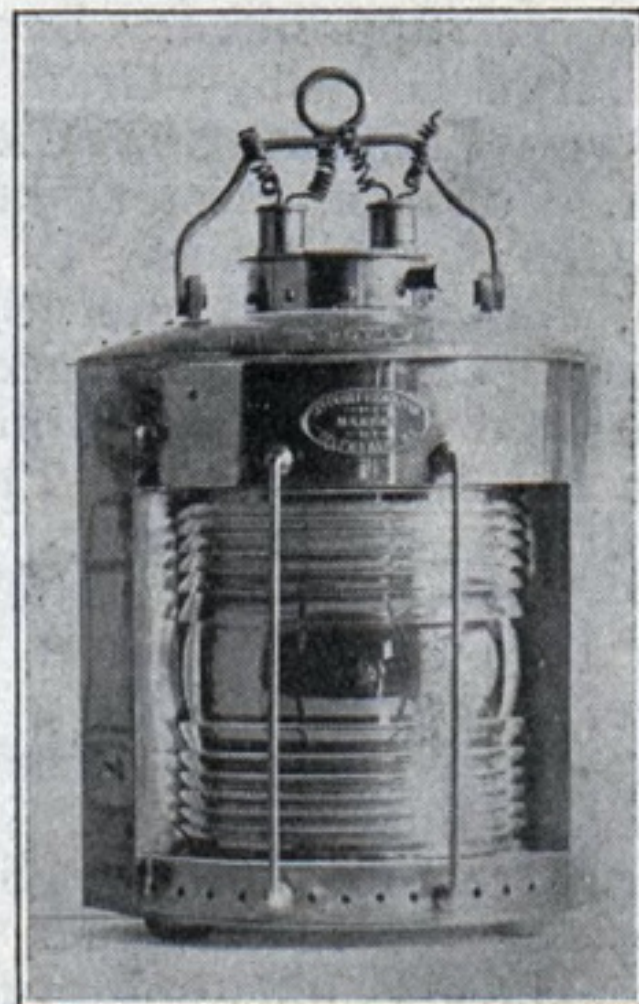
Fifty-four years ago, Wm. Porter, the founder of the present firm of Wm. Porter & Sons, 271 Pearl street, came to New York from the little town of Catskill and engaged in the manufacture of lamps and lanterns, gradually build-

**MASTHEAD.****ANCHOR.**

ing up a large and prosperous business in the railroad line.

Upon the breaking out of the late war, the firm, which at this time was styled Wm. Porter & Sons, in addition to the making of railroad goods, commenced the manufacture of marine lamps, and furnished large quantities of the same to the U. S. Navy during the following five years of active service.

At the close of hostilities between the North and South the firm turned its attention to marine lamps for general

**SIDELIGHT.**

commercial use, perfecting many improvements in the construction of ship lights, and have since continued to advance, keeping abreast with the requirements of the times, and within the past five years further branching out into electrical fixture equipments for the modern-

built palatial passenger steamers of the present day, of which the S. S. "Creole," of the Cromwell Line, is the newest.

Messrs. Wm. Porter's Sons supplied this ship with her entire outfit of both the oil and electric signal lights connected with safety indicator apparatus, saloon fixtures and lamps, including the insulated pipe system, especially adapted for the fire and engine room with water-tight junction boxes and steam-tight receptacles.

Besides the railroad, and oil and electrical equipments for the U. S. Navy and commercial steamship trade, the firm also does a fine class of yacht work, of which might be mentioned the fitting out of three of the America's Cup defenders, Puritan, Mayflower and Defender.

While a host of other pleasure craft might be enumerated, a few such as Atlanta, Tillie, Lasca, Columbia, Corsair, Dauntless, Intrepid, Electra, Embla, Stranger, Sovereign and Giralda, being of the larger class, will suffice to give our readers an idea of the extent and class of trade enjoyed by this enterprising marine lamp house.

CONGRESSIONAL ACTION.

The Senate Naval Committee has favorably reported the amendment intended to be proposed to the naval appropriation bill by Senator Petigrew, authorizing and directing the establishment of branch hydrographic offices at Duluth, Minn.; Sault Ste. Marie, Mich., and Buffalo, N. Y.

The Senate Naval Committee has favorably reported the amendment proposed to be made by the naval appropriation bill authorizing the Secretary of the Navy to contract for 3,000 copies of a new edition of the book of "Flags of Maritime Nations," of which such number as may be necessary shall be reserved for use by the Navy Department, on board vessels, at naval stations, and for official use by the Departments of State, Treasury and War, the remainder to be delivered to the superintendent of public documents for disposal by him in accordance with the provision of law relating to the sale of public documents; Provided, That no copies of said book shall be distributed gratuitously.

The House Naval Committee has favorably reported the Senate bill to amend Chapter 67, vol. 23, U. S. Stat. at Large, and to further provide for the retirement of enlisted men in the United States Army and Marine Corps and enlisted men and petty officers of the United States Navy, with an amendment providing that such retirement will take place only when an enlisted man has served thirty years in the United States Army or Marine Corps, or as an enlisted man or appointed petty officer in the United States Navy, and shall have attained the age of fifty-five years.

Senator McMillan has introduced an amendment to the sundry civil providing that a captain in the Revenue Cutter Service who has served as chief of the Division of the Revenue Cutter Service shall be eligible for appointment as post captain and as chief of the Revenue Cutter Service, whose compensation shall be that now provided by law for a captain in said service, and no more. Senator Carter proposes an amendment to the same bill appropriating \$20,000 to purchase the former post traders' building at Fort Assiniboine.

Notice has been given in the Senate that the following amendments will be proposed to the naval appropriation bill: Increase the pay of the Assistant Librarian at the Naval Academy from \$1,400 to \$1,800 per year; remit to the Union Iron Works, of San Francisco, Cal., the horse power penalty imposed under the contract for the armored coast defense vessel Monterey; authorizing the Secretary of the Navy in his discretion to contract for such number of submarine torpedo boats of the Holland type, similar to the one now being constructed by the Crescent Shipyard, Elizabethport, N. J., as the sum fixed in the act of January 10, 1896, for the purchase of two such boats will permit; referring to the Secretary of the Navy for audit and report the claims of the William Cramp & Sons Ship and Engine Building Company for extra work, expenses and losses incurred in the construction of the Indiana, Massachusetts, Columbia, New York and Brooklyn; appropriating \$5,000 for the Port Royal naval station, \$50,000 for a tug boat at Port Royal, \$75,000 for machinery to be placed in the machine shop there; also appropriating \$25,000 and authorizing the use of a naval vessel or vessels for determining the best route for a telegraph cable between Honolulu and Japan.

AMENDED STEAMBOAT RULES AND REGULATIONS.

At the regular meeting of the Board of Supervising Inspectors of Steam Vessels, held in the Lenman Building, Washington, D. C., January and February, 1897, in pursuance of section 4405, Revised Statutes of the United States, amendments were made to rules I, II, III, IV, V, VI, and IX of the General Rules and Regulations.

The pilot rules for the Atlantic and Pacific Coast inland waters, great lakes and western rivers were amended in conformity with an act of Congress approved January 18, propelled by gas, fluid, naphtha, or electric motors," requiring such vessels to observe the pilot rules.

A rule for lights on scows without means of guidance in tow of steam vessels was adopted, requiring a white light to be carried forward and aft.

These amendments to the rules, having received the approval of the Secretary of the Treasury, have now the force of law, as provided in section 4405, Revised Statutes, and must be observed accordingly.

The amended rules in regard to lifeboats particularly must be strictly enforced upon all steamers at their first inspection after the receipt of this circular.

All boilers built for marine purposes after July 1, 1897, shall be required to have all the rivet holes in the shell "fairly drilled" instead of punched, and the longitudinal laps of their cylindrical parts double riveted, to be entitled to 20 per cent additional pressure; also that steel plates of one-half inch thickness and over for all boilers shall have all the rivet holes in the shell "fairly drilled" instead of punched. Multiply one-sixth (1-6) of the lowest tensile strength found stamped on any plate in the cylindrical shell by the thickness—expressed in inches or parts of inches—of the thinnest plate in the same cylindrical shell, may be allowed a strain not exceeding 8,000 pounds per and divide by the radius or half diameter—also expressed in inches—and the sum will be the pressure allowable per square inch of surface for single riveting, to which add 20 per cent for double riveting, when all the rivet holes in the shell of such boiler have been "fairly drilled," and no part of such hole has been punched. Steel stay bolts [exceeding] of a diameter of 1 1/4 inches, and not exceeding a diameter of 2 1/2 inches at the bottom of the thread, square inch of cross section. * * *

Tubes, water pipes and steam pipes, made of steel manufactured by the Bessemer process [shall not be allowed to], may be used by any marine boiler [built from (on or) after July 1, 1896;] when the material from which such pipes are made does not contain more than .06 per cent of phosphorus and .04 per cent. of sulphur, to be determined by analysis by the manufacturers, verified by them, and copy furnished the user for each order tested; which analysis shall, if deemed expedient by the Supervising Inspector-General, be verified by an outside test at the expense of the manufacturer of the tubes or pipes. No tube increased in thickness by welding one tube inside of another shall be allowed for use.

Seamless copper or brass tubes not exceeding three-quarters of an inch in diameter may be used in the construction of water-tube boilers or generators, when liquid fuel is used. There may also be used in their construction, copper or brass steam drums not exceeding 14 inches in diameter, of a thickness of material not less than 5/16 of an inch; and copper or brass steam drums 12 inches in diameter and under having a thickness of material not less than 1/2 inch. All the tubes and drums referred to in this paragraph shall be made from ingots or blanks drawn down to size without a seam. Water-tube boilers or generators so constructed may be used for marine purposes with none other than liquid fuel.

14. The strength of all corrugated flues, when used for furnaces or steam chimneys (corrugation not less than 1 1/2 inches deep and not exceeding 8 inches from centers of corrugation), and provided that the plain parts at the ends do not exceed (6) 9 inches in length and the plates are not less than five-sixteenths inch thick, when new, corrugated, and practically true circles, to be calculated from the following formula; * * *

Bumped heads may have a manhole opening flanging inwardly, when such flange has a sufficient depth and thickness to furnish as many cubic inches of material as was removed from the head to form such opening. Pressure allowed on bumped heads.—Multiply the thickness of the plate by one-sixth of the tensile strength and divide by (six-tenths) one-half of the radius to which head is

bumped, which will give the pressure per square inch of steam allowed.

The total capacity of lifeboats, or of lifeboats and life rafts, on steamers navigating the ocean, except steamers of 100 gross tons and under hereinafter provided for, shall not be less than the capacity given, according to tonnage, in the following table:

GROSS TONS.	TOTAL CAPACITY OF BOATS, IN CUBIC FEET	GROSS TONS.	TOTAL CAPACITY OF BOATS, IN CUBIC FEET
Steamers over—		Steamers over—	
100 and not over 200...	540	7,500 and not over 8,000	6,120
200 and not over 300...	720	8,000 and not over 8,500	6,570
300 and not over 400...	1,080	8,500 and not over 9,000	7,020
400 and not over 500...	1,260	9,000 and not over 9,500	7,470
500 and not over 1,000...	1,620	9,500 and not over 10,000	7,920
1,000 and not over 1,500...	1,800	10,000 and not over 10,500	8,145
1,500 and not over 2,000...	2,160	10,500 and not over 11,000	8,370
2,000 and not over 2,500...	2,340	11,000 and not over 11,500	8,595
2,500 and not over 3,000...	2,700	11,500 and not over 12,000	8,820
3,000 and not over 3,500...	2,880	12,000 and not over 12,500	9,045
3,500 and not over 4,000...	3,240	12,500 and not over 13,000	9,270
4,000 and not over 5,000...	3,420	13,000 and not over 13,500	9,495
5,000 and not over 5,500...	3,870	13,500 and not over 14,000	9,720
5,500 and not over 6,000...	4,320	14,000 and not over 14,500	9,945
6,000 and not over 6,500...	4,770	14,500 and not over 15,000	10,170
6,500 and not over 7,000...	5,220	15,000.....	10,395
7,000 and not over 7,500...	5,670		

Not more than one-third of the boat capacity required on ocean steamers may be substituted by its equivalent in approved life rafts or approved collapsible (folding) lifeboats.

These boats must be of suitable dimensions, and each not less than 180 cubic feet capacity.

LIFEBOATS REQUIRED ON STEAMERS NAVIGATING NORTH-WESTERN LAKES, BAYS, AND SOUNDS.

GROSS TONS.	NUMBER OF BOATS.	CAPACITY OF BOATS, IN CUBIC FEET.
Steamers over—		
100 and not over 200.....	2	360
200 and not over 300.....	3	540
300 and not over 400.....	4	720
400 and not over 500.....	5	900
500 and not over 1,000.....	6	1,080
1,000 and not over 1,500.....	7	1,260
1,500 and not over 2,000.....	8	1,440
2,000 and not over 2,500.....	9	1,620
2,500 and not over 3,000.....	10	1,800
3,000 and not over 3,500.....	11	1,980
3,500 and not over 4,000.....	12	2,160
4,000 and not over 4,500.....	13	2,340
4,500 and not over 5,000.....	14	2,520
5,000 and not over 5,500.....	15	2,700

Steamers above 5,500 tons burden shall be furnished with an additional boat of not less than 495 cubic feet capacity for each additional 500 tons burden, or fraction thereof; or if the owners or agents prefer, two boats may be used, provided the aggregate capacity shall be the same as the one boat described. These boats shall be substantially built with reference to the trade in which the steamer is engaged, and shall not be of less dimensions than those named in the example in section 2 of this rule, unless, where smaller lifeboats are employed, their aggregate capacity shall equal the aggregate capacity of the larger boats; Provided, however, that no steamer shall be required to have more lifeboats than sufficient to carry the passengers she is allowed by her certificate of inspection, together with her officers and crew.

Not more than one-third of the boat capacity required on lake, bay, and sound steamers may be substituted by its equivalent in approved life rafts or approved collapsible (folding) lifeboats.

A portion of the lifeboats required on all passenger steamers may be substituted by their equivalents in approved life rafts when, in the judgment of the inspectors, it can be done with safety. On and after July 1, 1897, all wooden boats required on steam vessels shall have branded or cut on the stem thereof the net cubic feet contents of said boat. Metal boats shall have net cubic feet measurement painted on stem in black letters and figures not less than 3/4 inch high, on a white ground. Every life raft shall have stenciled on it in a conspicuous place the number of persons it can carry. All steamers built for the navigation of oceans, Northwestern lakes, and sounds (meaning in waters sufficiently rough to swamp boats) shall be equipped with life rafts in proportion of one, at least, to every two lifeboats required. Drags or floating anchors shall be constructed so as to be capable of being

compactly stowed near the head of the ship. Steamers navigating the ocean must be provided with at least one drag, of area as follows: For steamers of 400 gross tons and under, not less than 25 superficial feet; for steamers of over 400 gross tons, the area of drag shall not be less than that determined by adding to 25 square feet 1 square foot for each additional 25 gross tons above 400 tons. Example: The area of a drag on a vessel of 1,000 tons will equal—25 plus 1,000-400÷25=49 square feet.

Steamers of over 5,000 gross tons may be equipped with two or more drags, provided the total area is not less than that required by this rule. Steamers whose routes do not extend off anchorage are not required to have drags or floating anchors on board.

Table of dimensions of boats for passenger steamers of 100 gross tons and under navigating lakes, bays, sounds, and rivers, other than the Red River of the North and rivers whose waters flow into the Gulf of Mexico. Boats of other dimensions of equivalent cubical capacity may be used.

NUMBER OF TONS. (GROSS).	NUMBER OF BOATS.	DIMENSIONS.			FACTOR.	CONTENTS
		LENGTH.	BREADTH.	DEPTH.		
		FT.	FT. IN.	FT. IN.		CUBIC FT.
Steamers over—						
50 and not over 100.....	1	18	5 6	2 3	.7	155.9
30 and not over 50.....	1	16	5 6	2 3	.7	138.6
10 and not over 30.....	1	14	5 0	2 2	.7	106.1
0 and not over 10.....	1	14	4 6	2 0	.7	88.2

Any applicant for examination for license who has been refused for want of knowledge or other qualifications, may come before any local board for re-examination after one year has expired, on presentation of a letter from the board that had refused him. No original first-class pilot license on the Northwestern lakes shall be issued hereafter to any person who has not been licensed and served at least one full season of eight months as second-class pilot on steamers, such service as second-class pilot to have been within two years preceding the application for such license.

No original license for pilot of any route shall be issued to any person, except for special license, on small pleasure steamers and ferryboats navigating outside of ports of entry and delivery, who has not been employed in the deck department of a steamer or sail vessel for the term of at least three years preceding the application for license, or who has not served continuously for two years (during the season of navigation) in the pilot house of a steam vessel as wheelsman or quartermaster, which fact the inspectors may require to be verified by the certificate in writing of the licensed master or pilot under whom the applicant has served, said certificate to be filed with the application of the candidate. Except by the consent in writing of the board that granted the license, no other board shall raise the grade of an engineer, mate, or pilot during the first year for which the license was granted, * * *

And it shall be the duty of all engineers when an accident occurs to a boiler or boilers in their charge, tending to render the further use of such boilers or boilers unsafe until repairs are made, to report the same to the local inspectors immediately upon the arrival of the vessel at the first port where a local board is situated.

AMENDMENTS TO THE PILOT RULES FOR THE GREAT LAKES AND THEIR CONNECTING AND TRIBUTARY WATERS AS FAR EAST AS MONTREAL.

These rules are amended: First. By striking out the word "steam" before the word "whistle" wherever the same appears in each rule. Second. The following is inserted after the title: "All the rules relating to steam vessels in passing each other contained in the Pilot Rules for the Great Lakes and their connecting and tributary waters as far east as Montreal shall also apply to all vessels propelled by gas, fluid, naphtha, or electric motors, and between any of such vessels and steam vessels navigating these waters." These rules shall take effect on and after March 1, 1897.

The Lake City Engineering Co. has been organized at Erie, Pa., for the manufacture of boilers, engines, etc. Among the parties backing the new concern are James R. Baristow, of Warren; Andrew Lloyd, Fred W. Doty, David F. Warmouth and Cass McCready, of Erie, Pa.



ESTABLISHED 1878.

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THE MARINE RECORD PUBLISHING CO.,

Western Reserve Building, Cleveland, Ohio.

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CLEVELAND, O., MARCH 4, 1897.

The new rating for lake vessels called the "Great Lakes Register" is not likely to be printed till well along in the season, as the promoters calculate on getting up quite a mass of data and making the book very inclusive.

The thanks of the Record are due the branch hydrographic office, Cleveland, for a copy of the North Pacific pilot chart for March. The branch offices of this useful government department are growing in favor daily and each one that is established adds prestige to the navy department.

In the reproduction of cuts the American Shipbuilder, New York, makes the fore-and-aft sails draw contrary to the square canvas. This has occurred several times and notably in the last issue where they try to show an illustration of the iron auxiliary screw steamer Scotland in charge of Capt. Stannard. There is talent enough in the Shipbuilder to obviate these gross errors and we hope that our eyesight may not be further annoyed by glancing over any more impossibilities, such as the "Scotland" picture.

Students of the Northwestern University at Evanston, Ill., are much troubled over the new civil-service rules for the government life-saving service on the lakes, which practically exclude them from that service. The students of Evanston have earned fame for their effective heroism in this work; the building of the service is on the university campus, and was granted in consideration of the fact that the crew should be entirely made up of students, excepting only the captain. This has been the case since 1876; the 20-years' lease then given has expired, and now unless there is a concession made, the government will have to find a new site for their building—which is difficult, as the land for a mile north is the university's, and for several miles south is occupied by costly residences. The story of the crew's services would make thrilling reading; it has twice received the thanks of Congress for saving life.

Senator Cullom has obtained the insertion in the sundry civil appropriation bill of a paragraph so construing the river and harbor act of last session as to permit the use for widening and deepening the Chicago River of a portion of the \$700,000 appropriated by that act and which had been held to be available for dredging only. The original appropriation of \$700,000 was incumbered with the phrase "for dredging purposes," whereas the amount needed for that use was but \$180,000. The effect of Senator Cullom's amendment, if it becomes a law, will be to make the balance of \$520,000 immediately available for straightening and widening the river.

A dispatch from Ottawa, Ont., states that in retaliation for the passage of the immigration bill by Congress M. R. Cowan, member of Parliament from South Essex, is going to press for the abolition of reciprocity in wrecking. The result of that arrangement entered into three or four years ago has been in favor of the United States. Let us stop it and give the work of wrecking in Canada waters to Canadians, he says.

The last monthly bulletin of the bureau of statistics of the Agricultural Department shows that New Orleans is now one of the principal corn shipping ports in the United States. During January of this year, New Orleans shipped 4,564,664 bushels of corn, against 3,505,604 bushels during January, 1896. This record is 1,800,000 bushels in excess of the shipment at Baltimore, which aggregated 2,753,613 bushels. Newport News was third, with 1,875,578 bushels, and New York fourth, with a record of 1,835,963 bushels. These figures speak volumes in regard to the threatening character of Southern competition for the grain export business, and will serve to increase public interest in the proposed deep waterway from Duluth to the Atlantic coast.

At the solicitation of the committee on bird protection of the American Ornithologists' Union, of which Prof. Leverett M. Loomis, of the California Academy of Sciences, is a member, the government officials have set the seal of their displeasure on the importing of seabirds' eggs from the Farrelones, an island near to San Francisco Harbor. The lighthouse board at Washington, which has the affairs of the Farrelones in charge as a sort of United States government preserve, has issued a decree that the traffic in the eggs of the sea birds must cease. The eggs of the Murre, or foolish guillemot, have been shipped to the markets of San Francisco in great quantities ever since 1849, at which date they were almost the only fresh eggs to be had, bringing over \$1 a dozen.

The recent decision of the government land office in regard to the validity of the claims of parties who secured a hold on a portion of Chicago's lake front is of interest to everybody who possesses riparian rights of any value. The land which the claimants sought to secure would have made them rich, as the frontage in Chicago is valuable.

The case grew out of an accretion of sand around a wreck which was occupied as a home by an old captain who, when his vessel had stranded, stuck to her and squatted right there for a home. As the area of the new beach increased, the squatter's view of his right to ownership became more firmly established, and a question for the courts to decide literally came out of the sea. The squatter was too poor to make a long legal fight, but his chances were merchantable, and the holders of some scrip granted by Congress to McKee, many years ago, and which entitled the holder to 160 acres of "any unoccupied government land," joined interests with a number of others who had already interested themselves in the squatter's claim, and the land was taken on the scrip as unoccupied government property.

Commissioner Lamoreux has decided that the accretion of sand on the lake front is not government property, and that the claimants have no right to it whatever. Of course this decision will be appealed from, and the case carried to the court of last resort—the Supreme Court of the United States. The first appeal will be to the Secretary of the Interior, and if he decides adversely, the matter will be taken to the court.

There is a strong feeling prevalent that the old squatter will lose his habitation solely on account of lack of funds to thoroughly prosecute other claimants and establish his prior rights to the accretion or made land formed around his domicile.

MARINE TREASURY DECISIONS.

Home ports of vessels.

Treasury Department, Bureau of Navigation,
Washington, D. C., December 21, 1896.

To Collectors of Customs and Others:

The last paragraph of article 2, Customs Regulations of 1892, states that the term "home port" means that port established by law at or nearest to which the owner, if there be but one, or if more than one, the husband or acting and managing owner, resides, or the port at which the vessel is documented, or the place in the same district where the vessel was built.

The paragraph is hereby amended so as to read as follows:

"A vessel's home port is that port established by law at or nearest to which the owner resides, or, if there be more than one owner, that port at or nearest to which the

husband or managing owner usually resides. It is also the port at which a vessel's permanent marine papers issue, and its name must be specified in all marine documents. But in reference to the painting of the name of a port of hail on the stern of a vessel, the word 'port' may be construed to mean either the port where the vessel is registered or enrolled or the place in the same district where the vessel was built, or where one or more of the owners reside." (R. S. 4141, 4178, and Act June 26, 1884.)

EUGENE T. CHAMBERLAIN,

Commissioner.

Approved: S. WIKE, Assistant Secretary.

Vessels Proceeding Coastwise with Imported Cargo on Board.

Treasury Department, Bureau of Navigation,
Washington, D. C., December 1, 1896.

To Collectors of Customs and Others:

The Department's attention has been invited to recent cases in which vessels have been allowed to proceed coastwise under enrollment and license with merchandise on board which had not been unladen in the United States. The practice was prohibited by the Regulations of 1884 and preceding general regulations.

Article 117, Regulations 1892, is hereby amended by the addition thereto of the following paragraph:

"Enrollment and license must not be granted to a vessel having on board merchandise brought in her from a foreign port and not unladen in the United States."

EUGENE T. CHAMBERLAIN,

Commissioner.

Approved:

CHARLES S. HAMLIN, Assist. Sec. of Treasury.

Tonnage Tax on Vessels from German Ports.

Treasury Department, December 3, 1896.

To Collectors of Customs:

In pursuance of the proclamation of the President dated the third instant, of which a copy is appended hereto, you will take measures for the collection, on and after January 2, 1897, from vessels entered in the United States from ports in Germany, of tonnage dues as provided for by section 11 of the act of June 19, 1886.

EUGENE T. CHAMBERLAIN,

Commissioner of Navigation.

Approved:

W. E. CURTIS, Acting Secretary.

Notice of Change of Law Regarding the Issue of Steamboat Officers' Licenses.

Treasury Department, Steamboat-Inspection Service,
Office of the Supervising Inspector-General,
Washington, D. C., December 8, 1896.

To Supervising and Local Inspectors of

Steam Vessels and Others Whom it May Concern:

An act of Congress approved May 28, 1896, chapter 255, First session, Fifty-fourth Congress, authorizes licenses to officers of steam vessels to be issued, after January 1, 1897, for a term of five years instead of one year as heretofore.

Inspectors will therefore, after the date indicated, in issuing original, or renewing old licenses, issue them for the term of five years.

New licenses for the purpose are being prepared, and will be furnished inspectors, it is hoped, in time to begin their use on the 2d of January, 1897. In case, however, the new license books should fail to reach any board of local inspectors by the 2d proximo, they will issue licenses from the old books, erasing the word "one" preceding the word "year" where it occurs therein, and interlining the word "five" instead, until such time as they shall receive the new license books.

The act referred to also provides that, after the first day of January, 1897, "no person shall be qualified to hold a license as a commander or watch officer of a merchant vessel of the United States who is not a native-born citizen, or whose naturalization as a citizen shall not have been fully completed." Inspectors will see that the law as here quoted is carried out, by refusing, after January 1, 1897, to issue licenses except to persons qualified as therein stated, and should also demand for cancellation all outstanding licenses held by persons not so qualified.

The act referred to also provides for issuing one renewal of license to licensed officers engaged in service outside the United States, upon receipt of an application in writing from the holder thereof, for such renewal, "verified before a consul, or other officer of the United States authorized to administer an oath, setting forth the reasons for not appearing in person."

Attached hereto will be found the full text of the act above referred to.

JAS. A. DUMONT,

Approved: Supervising Inspector-General.

W. E. CURTIS, Acting Secretary.

ALASKAN BOUNDARY TREATY.

The following is the text of the Alaskan boundary treaty recently signed by Secretary Olney and British Ambassador Pauncefoot:

"Each Government shall appoint one Commissioner, with whom may be associated such surveyors, astronomers and other assistants as each Government may elect. The Commissioners shall at as early a period as practicable proceed to trace and mark under their joint direc-

tions and by joint operations in the field so much of the 141st meridian of west longitude as is necessary to be defined for the purpose of determining the exact limits of the territory ceded to the United States by the treaty between the United States and Russia of March 30, 1867. Inasmuch as the summit of Mount St. Elias, although not ascertained to lie in fact upon the 141st meridian, is so nearly coincident therewith that it may conveniently be taken as a visible landmark whereby the initial part of said meridian shall be established, it is agreed that the Commissioners, should they conclude that it is advisable so to do, may deflect the most southerly portion of said line so as to make the range with the summit of Mount St. Elias, such deflection not to extend more than twenty geographical miles northwardly from the initial point.

"The data relating to the determination already made at this time by either of the two Governments concerned, of points on or near the 141st meridian for the purpose of fixing its position, shall be submitted by each Government to the Commissioners, who shall decide which of the results of the determination shall be adopted by them. In case of disagreement between the Commissioners as to the correct geographical co-ordinates of one and the same point determined by either of the two Governments separately, a position midway between the two locations in question of the 141st meridian shall be adopted, provided the discrepancy between them shall not exceed 1,000 feet. In case of a greater discrepancy a new joint determination shall be made by the Commissioners.

"Each Government shall bear the expenses incident to the employment of their own appointees and of the operations conducted by them, but the cost or material used in permanently marking the meridian and of its transportation shall be borne jointly and equally by the two Governments.

"The present convention shall be duly ratified by the President of the United States of America, by and with the advice and consent of the Senate thereof, and by Her Britannic Majesty, and the ratification shall be exchanged at Washington or in London as soon as possible within twelve months from the date thereof."

THE MERCANTILE MARINE.

The latest edition of the "Repertoire General de la Marine Marchande," published by the Bureau Veritas, contains the usual general summary of the steamships belonging to the different maritime nations, and measuring 100 tons gross and upward, as also the accustomed list of sailing vessels measuring 50 tons net and upward, and likewise a list of the smaller vessels which are classed in the Veritas register. The following table shows the number of steamers of over 100 tons, and the collective gross tonnage belonging to the 16 principal maritime nations—that is, whose aggregate gross steam tonnage surpasses 100,000 tons.

	Steamers.	Gross tons.
	1896.	1896.
Great Britain and colonies.....	5,690	10,245,577
Germany	831	1,360,472
France	532	933,244
United States	477	701,707
Spain	365	519,315
Norway	551	494,612
Italy	222	344,523
Holland	204	320,794
Japan	267	313,563
Russia	314	277,302
Austria-Hungary	156	254,269
Denmark	265	248,773
Sweden	427	233,777
Greece	107	144,975
Brazil	314	139,305
Belgium	66	139,300

Besides the steam tonnage set forth in the above table, there are 2,667 small steamers (below 100 tons) measuring altogether 415,069 tons gross. The number of existing steamers whose measurement is between 5,000 and 6,000 tons is 131; between 6,000 and 8,000 tons, 59; those over 8,000 tons, 25, and of these eight are of more than 10,000 tonnage, viz., the Campania, Friedrich der Grosse, Georgie, Lucania, New York, Paris, St. Louis and St. Paul. The general total of the steamers of over 100 tons is given in the Repertoire as 11,155, representing 17,089,596 tons gross and 10,761,025 tons net. The sailing tonnage is divided among the principal maritime nations as follows—13 nations possession sailing tonnage of over 100,000 tons.

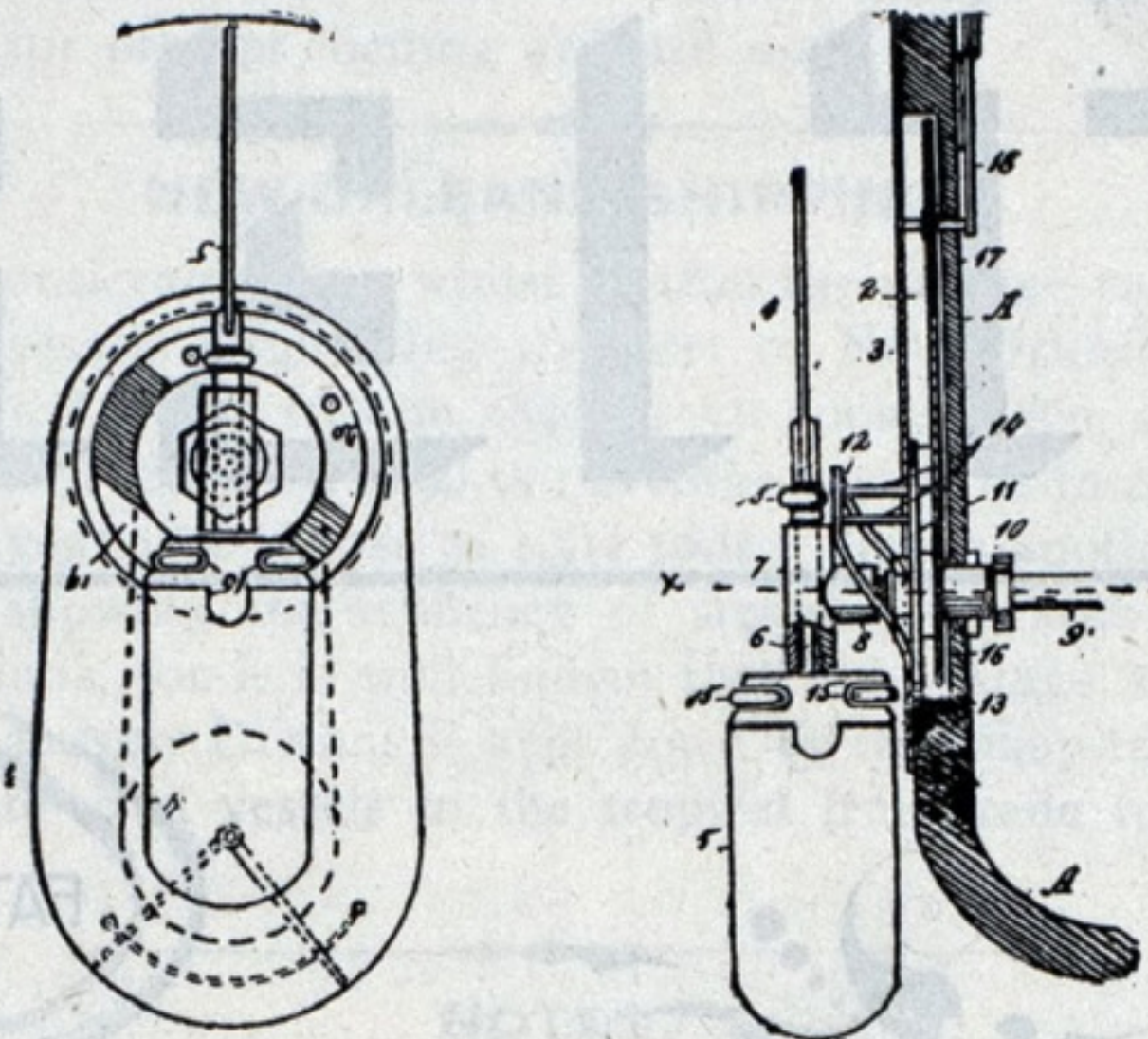
	Ships.	Net tons.
	1896.	1896.
Great Britain and colonies.....	8,726	3,267,625
United States	3,881	1,358,407
Norway	2,801	1,176,174
Germany	1,096	566,973
Italy	1,692	472,002
Russia	1,753	363,046
Sweden	1,444	285,665
France	1,425	252,940
Greece	1,059	246,196
Turkey	1,247	241,096
Spain	1,115	167,143
Denmark	795	149,843
Holland	642	139,649

A NEW PADDLE WHEEL.

Randall Mitchell, a citizen of Detroit, but formerly a native of Edinburgh, has had a patent granted to him on a submerged paddle-wheel, which bids fair to revolutionize the character of side-wheel steamers.

That the device is of great merit may be realized from the fact that Mr. Mitchell put over 17 years of work and thought upon the invention before he completed it to his full satisfaction. As it stands today it is the most efficient paddle-wheel on the market. Some of its features are included in the letters patent as follows:

1. The paddles, being entirely submerged, are not exposed to injury from floating timber or other obstructions.
2. The progress of the vessel is easily and promptly controlled by the lever in the hands of the officer on watch. Being first to discover danger ahead, he can instantly reverse the motion of the wheels by changing the position of the circular cam without waiting to signal



the engineer to stop and reverse the engines. The time thus saved will in many instances avert disastrous collisions.

33. In navigating narrow and crooked streams, or when approaching a dock or landing, the motion of either wheel may be retarded or stopped as desired for the time being.

4. A vessel may be held in a fixed position against a current or head wind to permit an exchange of signals with other vessels or parties on shore whenever desired. All these and other desirable performances are executed without the co-operation of the engineer.

5. It will be further understood that if an increase of power should make an increase of paddle surface desirable, a series of shafts may be furnished with paddles and operated in conjunction.

6. A war steamer thus provided might lose a number of paddles while under fire without being disabled.

Mr. Mitchell proposes to have the American Patent Agency, through their Detroit office, organize a company for him, and the paddle-wheels will be for sale in all parts of the country. This device is particularly applicable to use on ocean and sound steamers, as guards are not necessary unless desired.

FOREIGN MERCANTILE MARINE.

From statistical tables issued recently by Lloyd's Register of British and Foreign Shipping it appears that there were on the Register of the United Kingdom on the 31st December last, 20,805 vessels of 13,144,213 tons. The total is made up of 8,530 steamers of 10,242,192 tons, and 12,275 sailing ships of 2,902,021 tons. The total addition of steam tonnage during the year has been 780,247 tons gross; and, of sailing tonnage, 61,200 tons gross, or, in all, 841,447 tons gross. Over 96 per cent. of this addition consists of new vessels, not one of which has been built abroad.

PACIFIC COAST TONNAGE.

Vessels owned on the Pacific Coast is the title of a book published by the San Francisco Commercial News, copies of which can be obtained free of charge by all who write for them and mention that they saw this notice in the Marine Record. The book contains a complete list of all vessels documented at San Francisco, Puget Sound ports, Astoria, Portland, Eureka, Wilmington and San Diego custom houses. From the report we learn that there was 39,271 tons removed from the list in 1896, and 31,529 tons added, leaving a loss of 17,762 tons. The book will be valuable to a great many people in the East, as it gives the tonnage and name and address of the managing owner of each vessel mentioned.

AMERICAN HISTORICAL ASSOCIATION.

AGREEMENT OF 1817—REDUCTION OF NAVAL FORCES UPON THE AMERICAN LAKES.

By J. M. Callahan, of Johns Hopkins University.

The inland waterway which stretches along the northern border of the United States was the theater of warlike movement and of desperate conflict from a time previous to the discovery of Champlain till the close of the war of 1812. The conflict between savage tribes became a struggle between two powerful European nations, until at last the supremacy of England on the new continent was assured. But the Anglo-Saxon had not won for England alone. The liberty-loving colonists who were battling with the forest and making a new life south of the lakes claimed the right to govern themselves in their new home. The struggle by which they secured the lakes as their northern boundary did not end until their claims had been emphasized by fleets and diplomacy in a war which has since been, perhaps, well characterized as "unwise and unnecessary," although the fiery speeches of fascinating Americans and the slowness of the British Government in repealing the "orders of the council" made it appear unavoidable at that time.

With the close of the war came the almost universal desire for peace. In England a few wanted to send Wellington to America to direct a continuation of the war; in America a few favored the conquest of Canada; but the few thinking people received the news of peace with gladness. Jefferson wrote that Quebec and Halifax would have been taken, but that peace and reconciliation were better than conquest by war. He had not lost confidence in the strength of the Republic, but he hoped that the motto of "Carthago delenda est" might not be forced upon it. It was a time for repression of passion rather than for the perpetration of hatred. Jefferson's advice concerning the "inscription for the Capitol which the British burnt" was that it should be brief and so no passion could be imputed to it.

Peace had been concluded at Ghent amidst the festivities of Christmas eve in 1814, and as soon as the slow-sailing craft of that day could traverse the waters of the Atlantic the news was proclaimed in America on each side of the lakes. But entire peace could not be guaranteed by proclamation. How was the temple of Janus to be kept closed? Manifestly, the most apparent danger of future collisions would lie in the relations of the two peoples alone the northern limits of the United States. While Jefferson was trying to "eradicate the war feeling which the newspapers had nourished" and wishing for the two "countries to shake hands together," what measures should be adopted to lessen the possible sources of future misunderstandings, as well as to accelerate the return of fraternal feelings, desires and actions? The development of the Northwest was affected by the presence of British troops in Canada and of British vessels on the lakes. How should this danger be avoided? These were questions which the wise, well-trained leaders of 1815 had before their minds.

Perhaps no better leaders could have been selected for the hour. They consulted only the interests of the country. They had no axe to grind at the expense of the public peace. Their statesmanship did not sink into morbid abuse of some fancied enemy. They and the people for whom they stood, when they looked back and saw that the world had moved, began to look forward for the things that should grow in the new era of quickening activity, when great cities should be erected along the south shores of the liminary lakes.

"The statesmen of that period, sincerely desirous of establishing a lasting peace, applied their minds on both sides to effective arrangements which would render these waters neutral." They saw at once that if peace were merely to lead to a perpetual race in naval construction, such a peace would be only temporary and expensive. Building of naval vessels would have gone on ad libitum, possibly ad infinitum, greatly to the emolument of ship-builders, perhaps, but at the risk of strained relations between the United States and Canada.

The first suggestion of the idea of making the lake region neutral appears to have originated during the administration of President Washington, and by the President himself, as a means of preserving peace at home. On May 6, 1794, Mr. Randolph, Secretary of State, wrote to Mr. Jay, who had been sent to negotiate a treaty with England, that in case the "subject of a commercial treaty be listened to," it would be well to consider as one object the following: "In peace no troops to be kept within a limited distance of the lakes." There is no record of this subject having been considered in the negotiations. Jay's treaty clearly gave Great Britain the advantage on the lakes, much to the disappointment of Mr. Madison and others, but probably no better terms could have been secured at that time. It permitted British subjects "to navigate all the lakes, rivers and waters of the United States up to the highest point of entry;" but it was expressly stated that "vessels of the United States were not to be admitted into the seaports, harbors, bays or creeks of His Majesty's American dominions." By it the lake trade fell into the hands of

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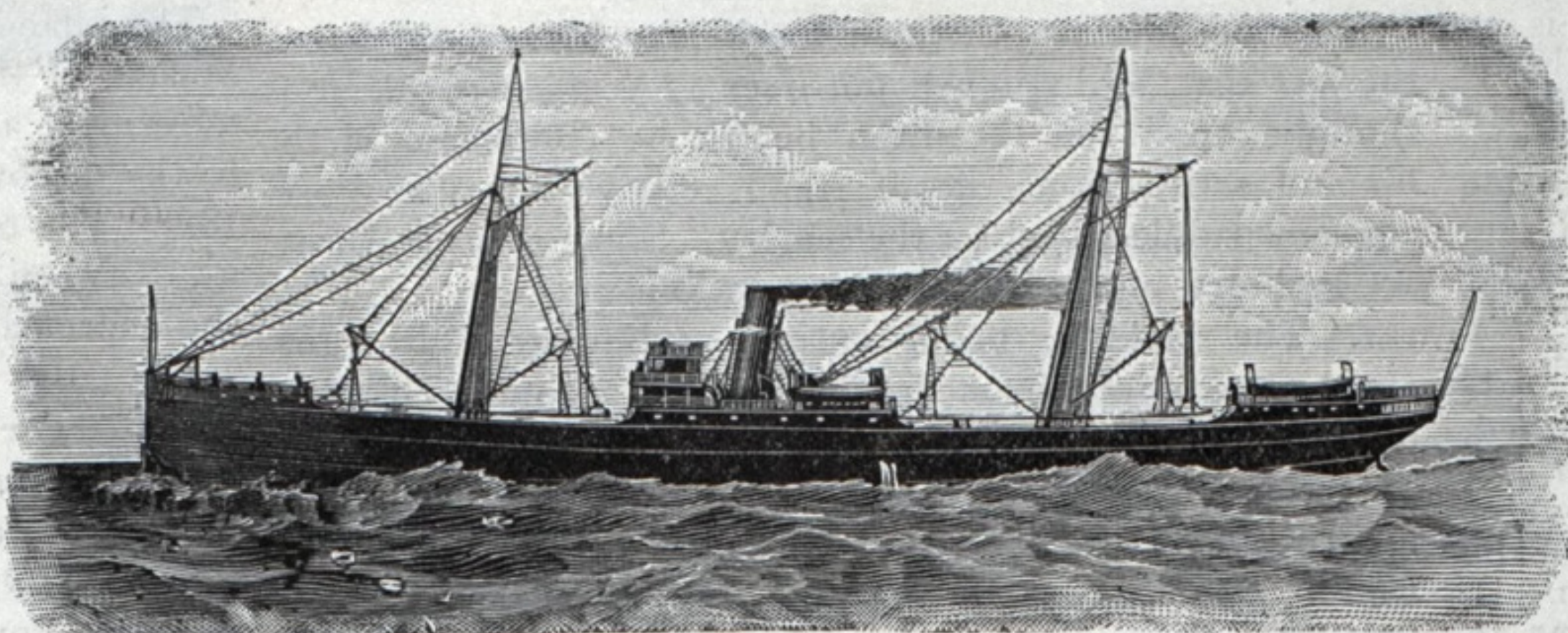
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the British, and by means of the lake trade they secured an influence over the Indians of the northwest, which they were able to retain till the war of 1812.

During that war the Americans were at first determined to shut the British out from the lakes. In this they were largely successful by force of arms, but in diplomacy it was considered expedient to insist upon securing control of the lakes. Such a policy would probably have broken off negotiations at the time, for Great Britain would hardly have given up such a great advantage to commerce, especially when she feared the dangers of conquest of her upper provinces by the Americans. By these considerations the American commissioners at Ghent were led to stand for "terms of reciprocity honorable to both countries." When the British commissioners were proposing that Great Britain should have military occupation of the lakes, the Americans asked only a renewal of the former boundary through the middle of the lakes and "perfect reciprocity" in such matters as naval forces and fortifications.

Lord Castlereagh from the first desired to prevent a contest for naval ascendancy upon the lakes. In his letter to the British commissioners, August 14, 1814, he said that a boundary line equally dividing the lakes, with a right of each nation to arm, both upon the lakes and upon the shores, was calculated to create a rivalry for ascendancy in peace as well as in war. This appeared to be one reason why he thought the British, as "the weaker power upon the North American continent," should have military occupation of both shores of the lakes, in case the former territorial limits were left undisturbed and the Americans were allowed free commercial navigation. He thought under these conditions armaments would not be needed. But Lord Castlereagh's proposal to disarm was not based upon the principle of reciprocity. It may, however, have suggested to the minds of the American commissioners the idea of mutual disarmament. There is an intimation of the idea, at least, in their reply to the British commissioners (dated August 24, 1814), in which they are "at a loss to discover by what rule of perfect reciprocity the United States can be required to renounce their equal right of maintaining a naval force upon those lakes and of fortifying their own shores, while Great Britain reserves exclusively the corresponding rights to herself." Though the United States had no guns upon the lakes before the war, she did not propose to give up her guns now and go back to her former condition in this respect. She desired to see

England propose a more liberal and amicable policy toward America.

The Government at Washington early in the war apprehended what would be the probable policy of the British. Monroe instructed the commissioners April 15, 1813, under the proffered Russian mediation: "You will avoid also any stipulation which might restrain the United States from increasing their naval force to any extent they may think proper on the lakes held in common; or excluding the British traders from navigation of the lakes and rivers exclusively within our own jurisdiction." At this time, it should be noted, past experience and conditions made it appear necessary for the United States to keep a superiority of naval forces on the lakes. Neutralization of these waters was probably not thought of at that time. Even as late at January 28, 1814, Monroe thought that participation in the dominion and navigation of the lakes by Great Britain would be a source of danger of the renewal of the war.

It appears that the first definite proposition of disarmament on the lakes was made by Mr. Gallatin. It was on September 6, 1814, when it seemed that negotiations could not proceed. Bayard manifested some symptoms of concession to the British proposals, and Mr. Gallatin proposed to offer, at least, to refer to the United States Government a "stipulation for disarming on both sides of the lakes." Adams objected to this, as not being in accordance with positive instructions. Here the matter dropped. But it was probably further discussed by the American commissioners, as a subsequent note seems to indicate. Their firm, but friendly, reply of September 9 was a factor in drawing from the British commissioners a more favorable reply, in which they asserted that they had "never stated that the exclusive military possession of the lakes * * * was a sine qua non in the negotiation," and that after the Indian question should be adjusted they could make a final proposition on the subject of Canadian boundaries "so entirely founded on principles of moderation and justice" that they felt confident it could not be rejected. The nature of this proposition is not stated. It was never brought forward, nor was any explanation given of what was intended by the offer. But the American commissioners supposed they intended to propose the mutual reduction of armaments, and on September 26 pledged themselves to meet such proposition with perfect reciprocity."

Gallatin, however, wrote to Mr. Monroe on October 26: tober 26:

"The right of preserving our naval forces on the lakes to any extent we please is a sine qua non by our instructions. Supposing the British to propose a mutual restriction in that respect, either partial or total, should we still adhere to the sine qua non?"

Clay wrote a private note to Monroe on the same day, in which he says that the recent events at Vienna and in America had encouraged a hope for an early peace, but he does not allude to Gallatin's note. It is probable that Gallatin wrote without consulting the other members of the commission. No reply to this note is found; in fact, if one was ever sent, it could not have reached him until after the Christmas eve when the terms of peace had been agreed upon.

Gouverneur Morris, who had been desirous of peace, and not desirous for Canada, during the negotiations also suggested the idea of disarmament. But the idea differed from that of Gallatin by being proposed as a matter of economy. On October 17, 1814, he wrote to Hon. William Welles:

"It would be wise to stipulate that neither party should have ships of war on the lakes nor forts on their shores. Both are an idle and useless expense."

He added:

"If they had there forty ships of the line and a dozen Gibraltars, we could with great ease take Canada."

The work of reducing the expense of naval forces on the lakes began very soon after the peace. Mr. Jackson, of Virginia, on February 17, 1815, offered a resolution that the naval committee be instructed to inquire and report to what extent the United States navy on the lakes could be reduced consistent with public interest. It was felt that while the United States forces ought to some extent be regulated by that of Great Britain, all useless expenditure should be retrenched. It was not the policy of the United States Government to fight to prevent a possible injury at a distant day. The Government expected peace and began to prepare for it. By act of February 27, 1815, the President was authorized "to cause all armed vessels of the United States on the lakes to be sold or laid up, except such as he may deem necessary

*Mr. Clay, on October 9, however, was for rejecting any proposition to disarm upon the lakes of a proposed article by the British (ultimatum on Indian pacification) was admitted; because he considered that the two articles together would deliver the whole western country up to the mercy of the Indians.

to enforce proper execution of revenue laws; such vessels being first divested of their armament, tackle and furniture, which are to be carefully preserved."

When Napoleon, dissatisfied with the small portion of the map of Europe that had been allotted to him, issued forth from Elba to disturb the congress of map revisers at Vienna, the danger of a renewal of the war was apprehended in America. Madison wrote Monroe on May 5, "If Napoleon is restored, England and France will again pillage America." But he believed that while the United States must maintain her ground and fight for her rights, she must avoid being a party to the European war. The nation was unwilling to relinquish the rights for which it had contended, but, at the same time, it was ready to support the Government in such measures as were "best adapted to prevent a renewal of the war." The continuation of the war between France and England was fortunately averted, and there was one less source of possible contention between England and the United States.

There were several sources of dissension which existed in 1815, whose early adjustment was considered advisable. Those which endangered the peace between the United States and Canada were: (1) Restlessness and hostility of the Indians on the frontier; (2) conduct of the British local authorities in Canada; (3) desertion of British soldiers to the American side; (4) British armaments on the lakes.

(To be Continued.)

ROBERTS BOILERS IN GOVERNMENT VESSELS.

The following Roberts boilers have been furnished for vessels owned by the United States—and "there are others." Snag boat Mandan, on Upper Missouri River; dredges Ohio and Oswego, on Ohio River; commandant's barge, Minnie, Brooklyn Navy Yard; torpedo planter Dyne, Whitestone Station; revenue cutter Penrose, Pensacola Station; revenue cutter Tybee, Savannah Station; revenue cutters Scout and Guard, Puget Sound Station; revenue cutter Johnson, Detroit Station; war department steamer Reil Whitford, Georgetown Station; war department steamer Angler, Savannah Station; war department steamer Gen. Geo. Thomas, Newbern Station; U. S. harbor supervisor's steamer Scout, New York Station; U. S. harbor supervisor's steamer Alert, New York station; U. S. harbor supervisor's steamer Active, New York Station; U. S. harbor supervisor's steamer Argus, New York Station.

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police boat, Inspector, the New York City dumping boat, Cinder-Ella, and the quarantine commissioners' steamer, State of New York.

EASTERN FREIGHT REPORT.

According to the eastern freight report furnished the Record by Messrs. Funch, Edye & Co., New York, sail tonnage continues rather scarce, and, as comparatively few vessels are being offered to arrive, business has been restricted during the week, the market, however, remaining quite firm and rates unchanged. There is slightly more inquiry for lumber tonnage from the Gulf to the River Plate, and \$12 net is being freely offered. Owners at present do not appear anxious to accept this rate. In other lines there is nothing of special interest to report, beyond the fact that the late demand for South Africa has momentarily slackened off, hence we find it very difficult to obtain offers for far-off vessels, though some few orders for prompt loading are still open.

NEW ORLEANS SHIPPING.

It is noticeable that, whilst in 1820 the average tonnage of the vessels frequenting the port of New Orleans was 183, it rose to 236 tons in 1840, to 521 tons in 1860, and to 998 tons in 1880. In 1890 the average was 1,183 tons; and for the year 1896 it rose to 1,511 tons. This is another instance showing the tendency of steamers towards large dimensions, for it is well known that the average size of vessels at New Orleans is kept down by the many trips of moderate-sized vessels in the tropical fruit trade to that port.

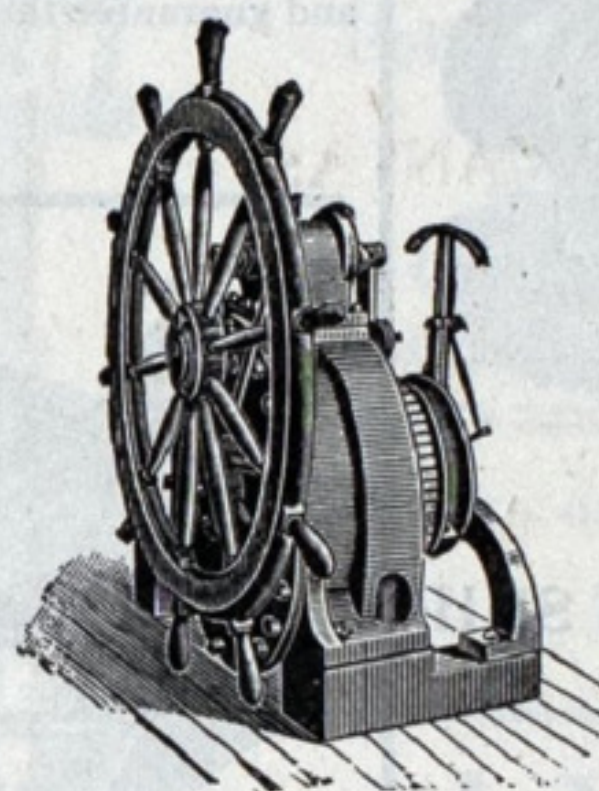
NOTES.

At a meeting of the board of directors of the Philadelphia Maritime Exchange, held the 23d day of February, the following minute was unanimously adopted: The Philadelphia Maritime Exchange here places on record its sincere appreciation and hearty endorsement of the intelligent, untiring and humane labors of the Hon. William P. Frye, chairman of the Senate Committee on Commerce, in behalf of American shipping interests and Amer-

ican seamen, and respectfully expresses its desire that he continue at the head of that committee. William P. Frye was elected as representative in the Congress of the United States from Maine in 1870, and was elected to the Senate in 1881; for fourteen years he has been a member of the Senate Committee on Commerce, and repeatedly its chairman. For a full quarter of a century he has been the convincing advocate, in many instances the painstaking author, of the beneficial legislation of Congress relating to our merchant marine. To his earnest endeavors those national interests are indebted in a great measure for what has been accomplished in their behalf; for much more which remains to be accomplished, we confidently look to the continuation of his endeavors.

The North American Review for March contains the second and concluding portion of M. Georges Clemenceau's important paper on "The French Navy." It is an actual representation of naval affairs as they exist in France to-day, depicting the claims of the "Young Navy" against the hackneyed and impotent Admiralty. M. Clemenceau pertinently asks whether France is to be satisfied with a navy inferior in number and speed to that of her powerful rivals.

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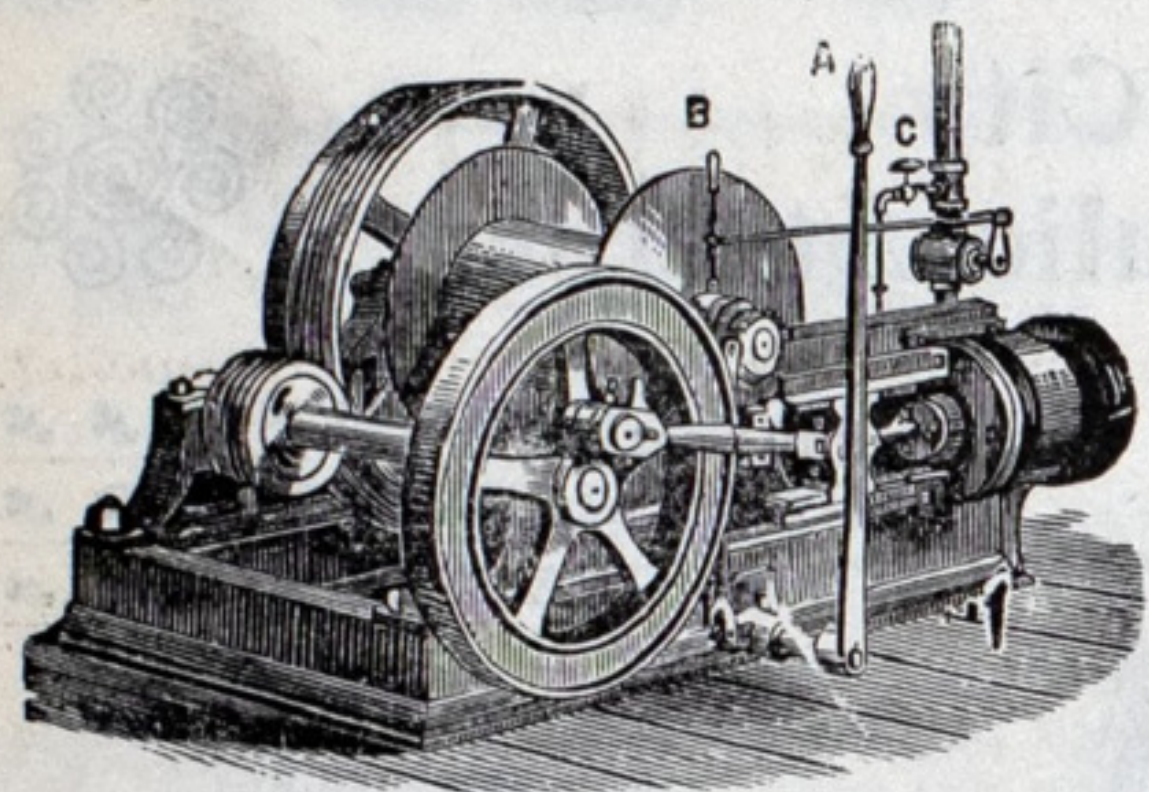
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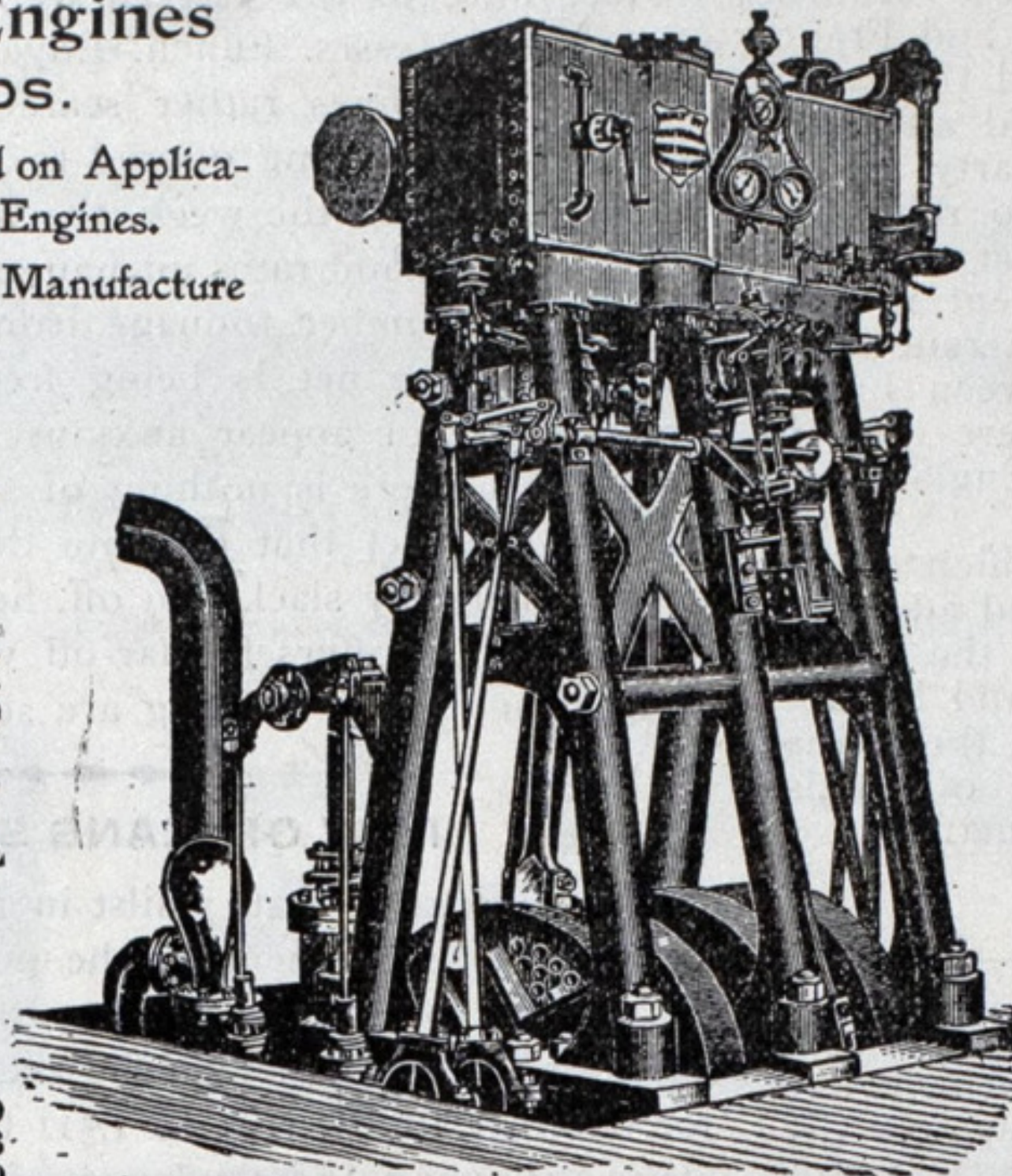
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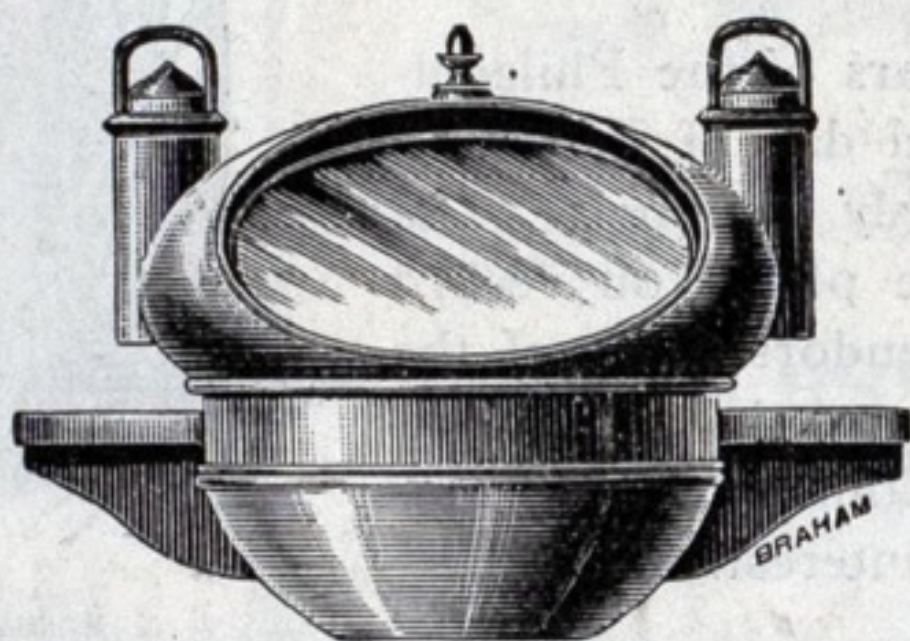
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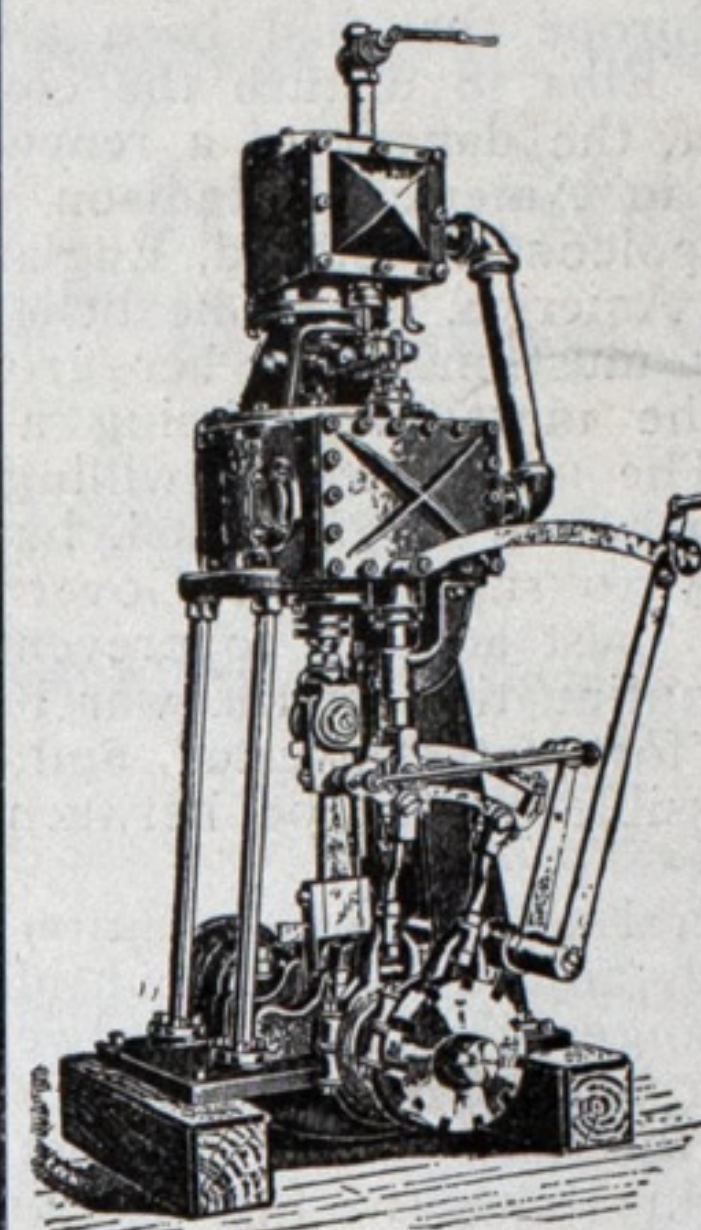
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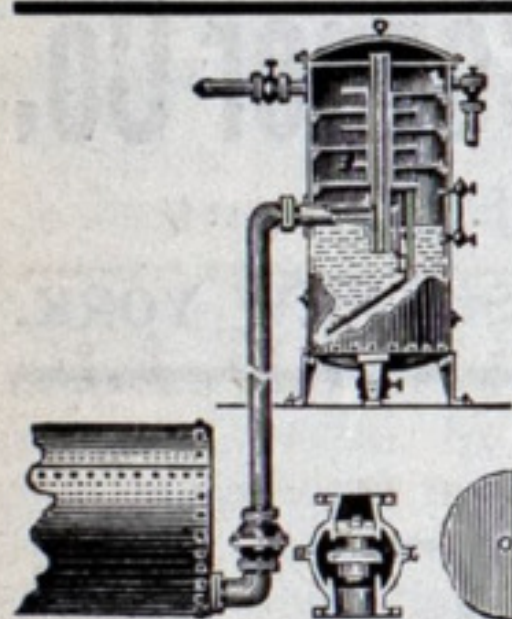
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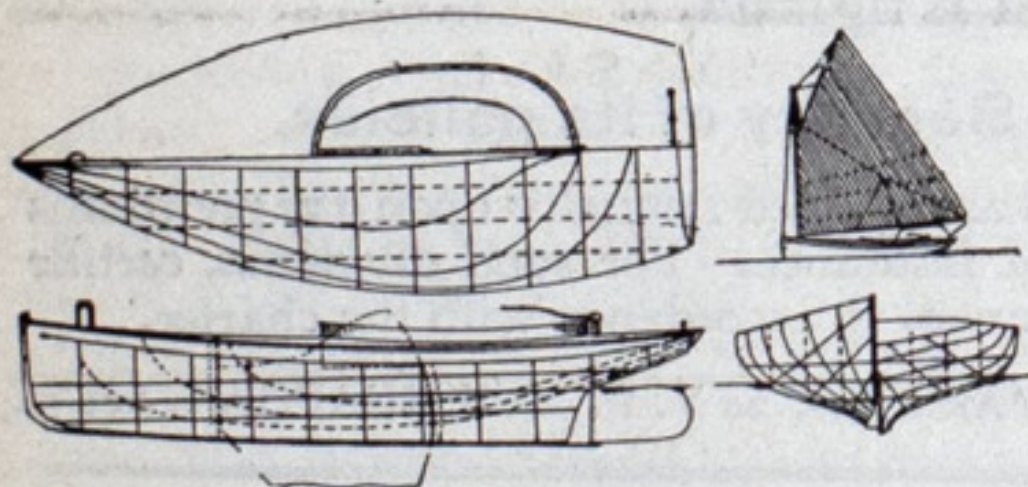
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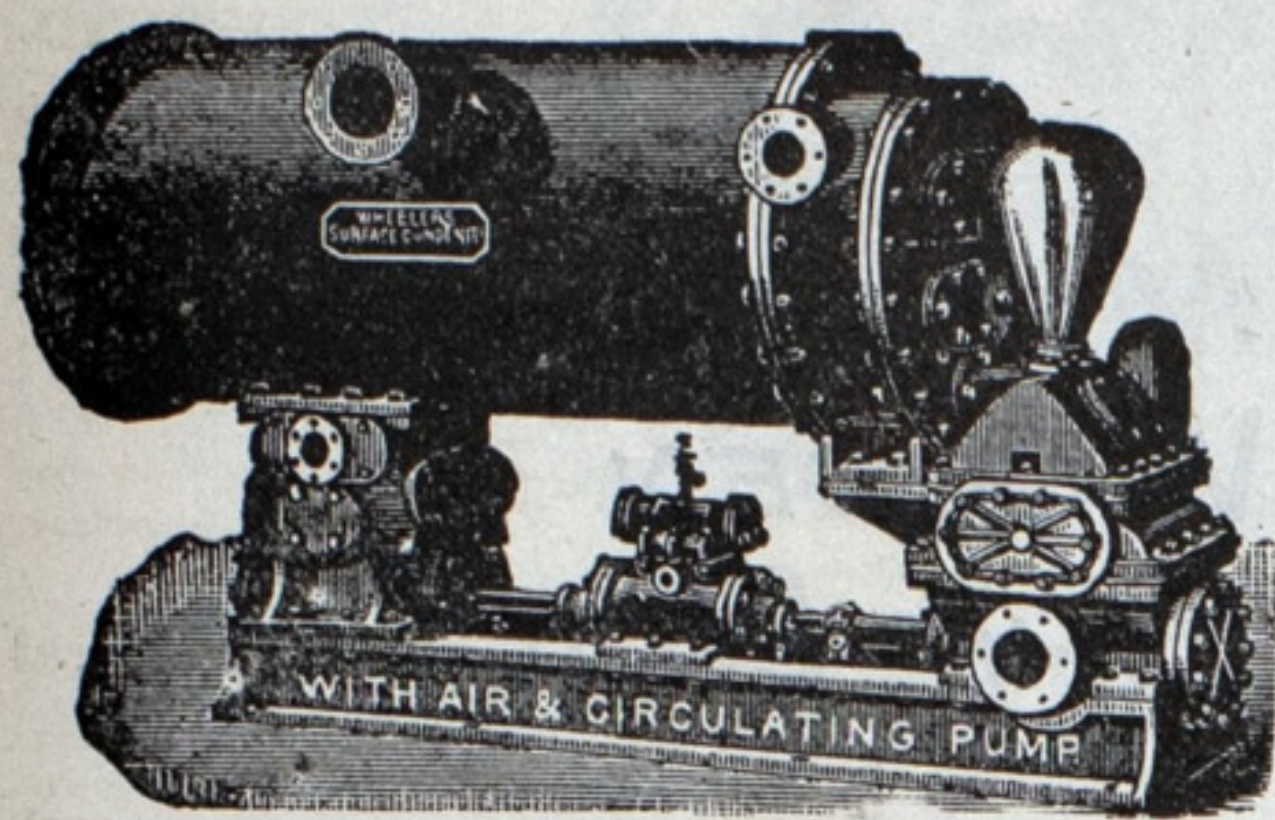
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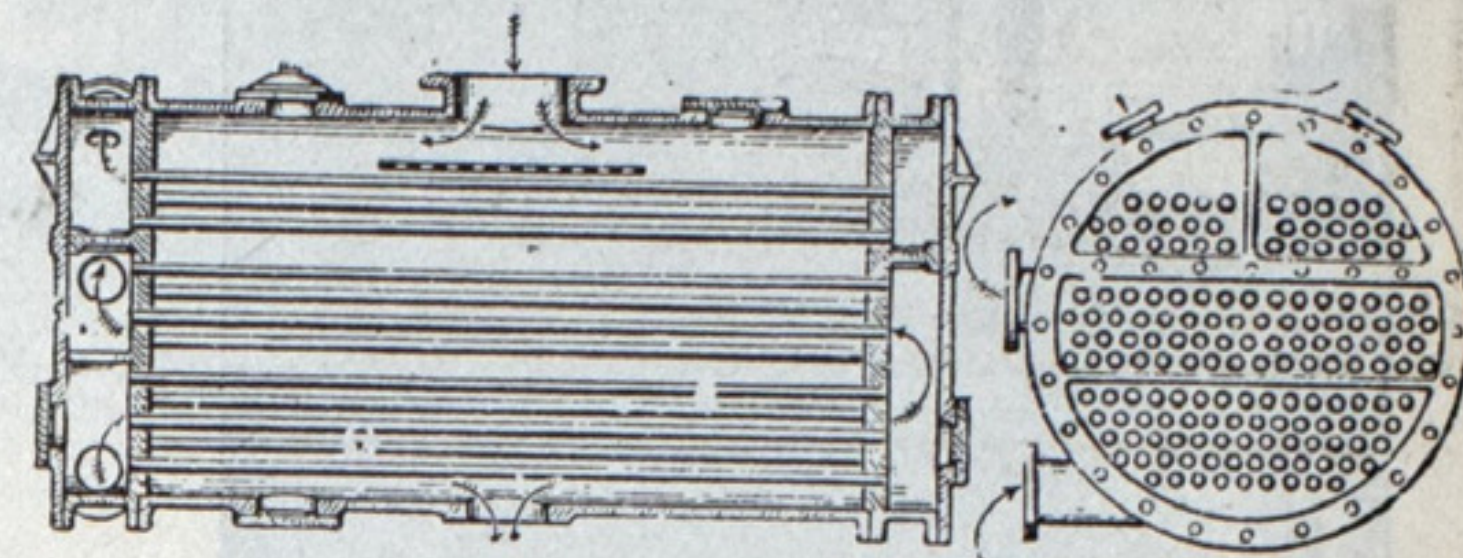
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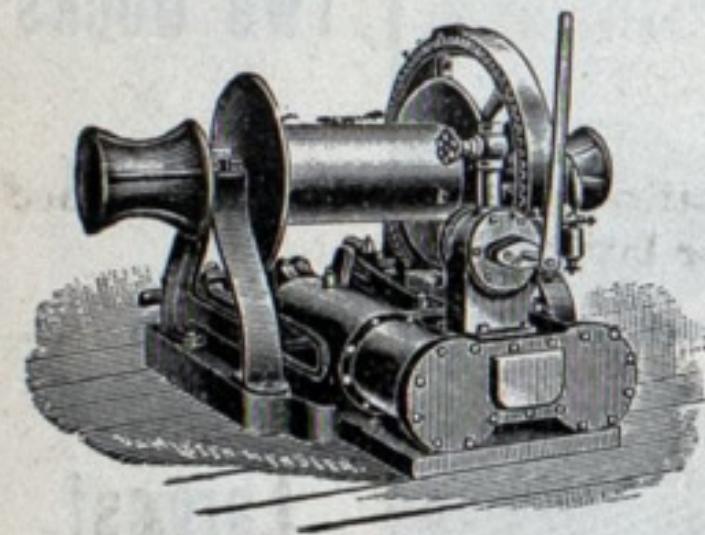
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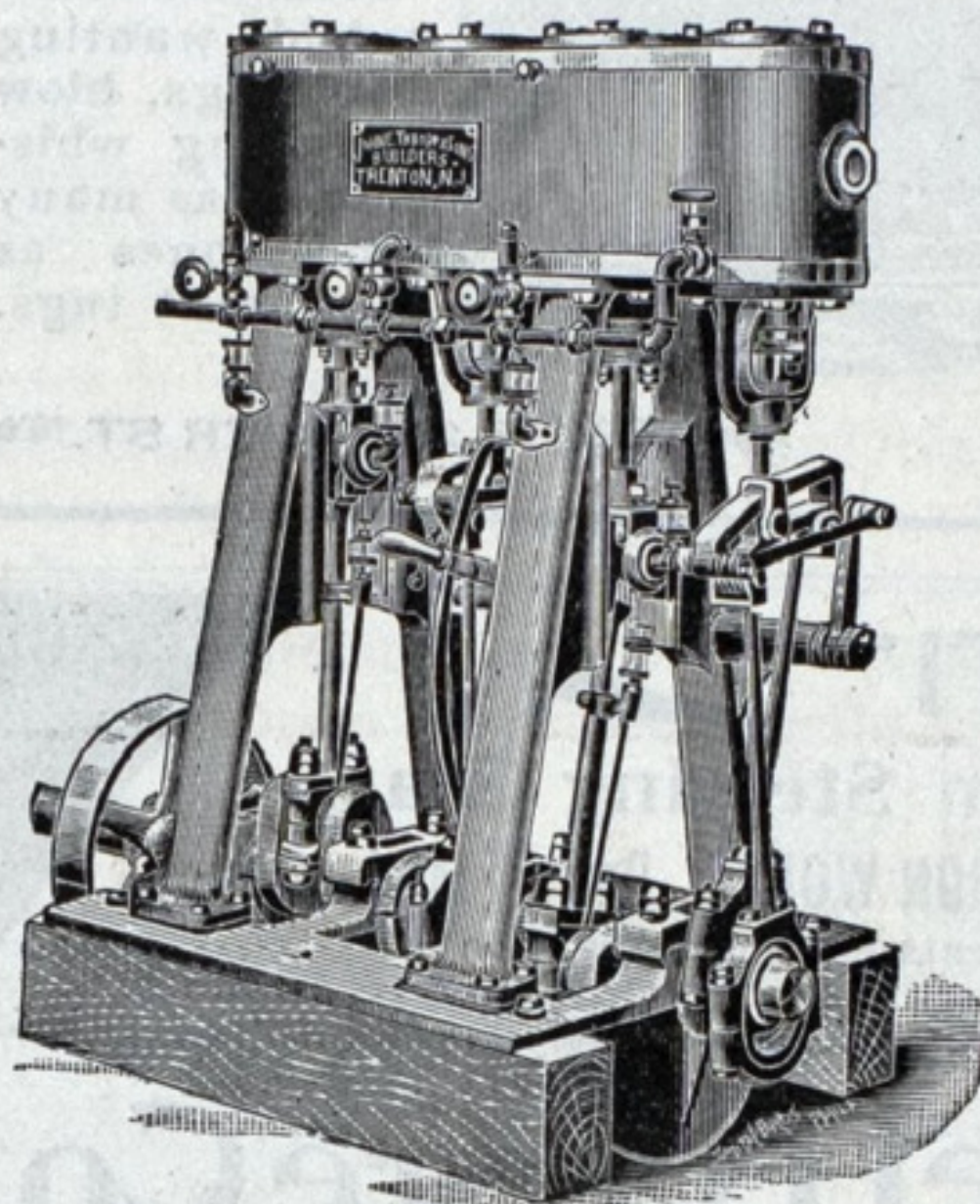
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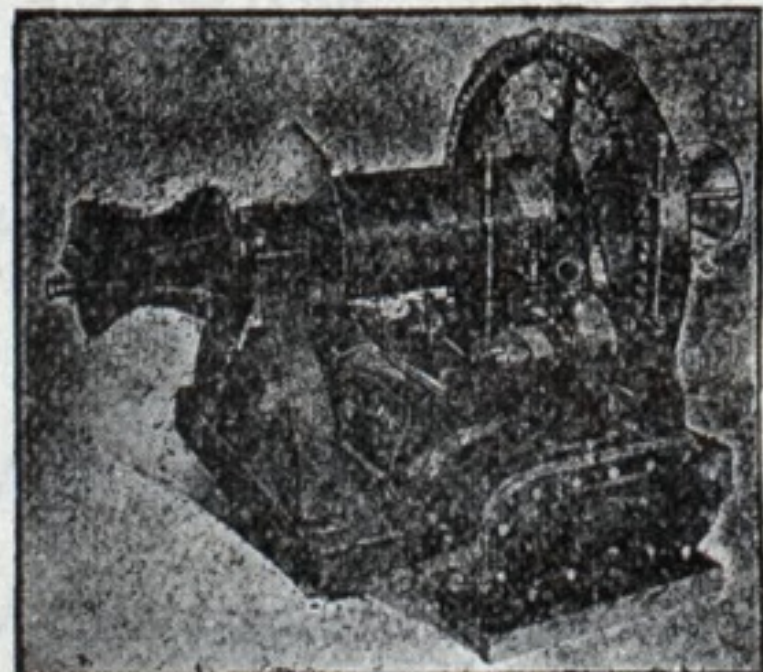
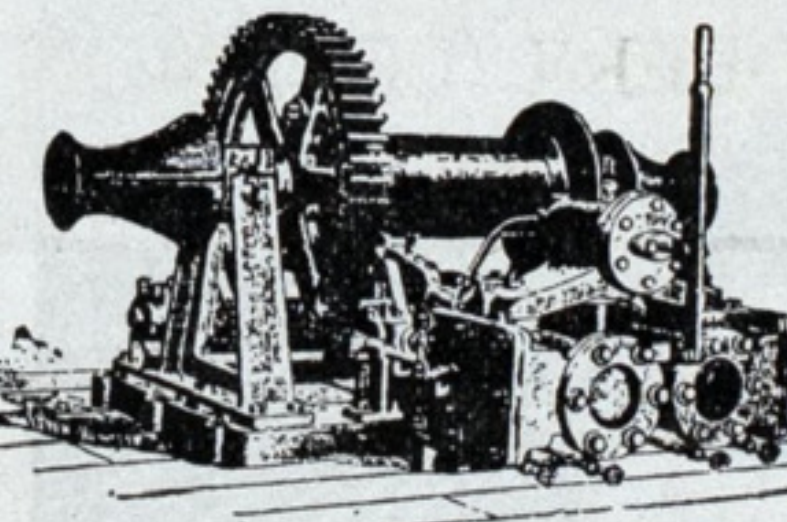
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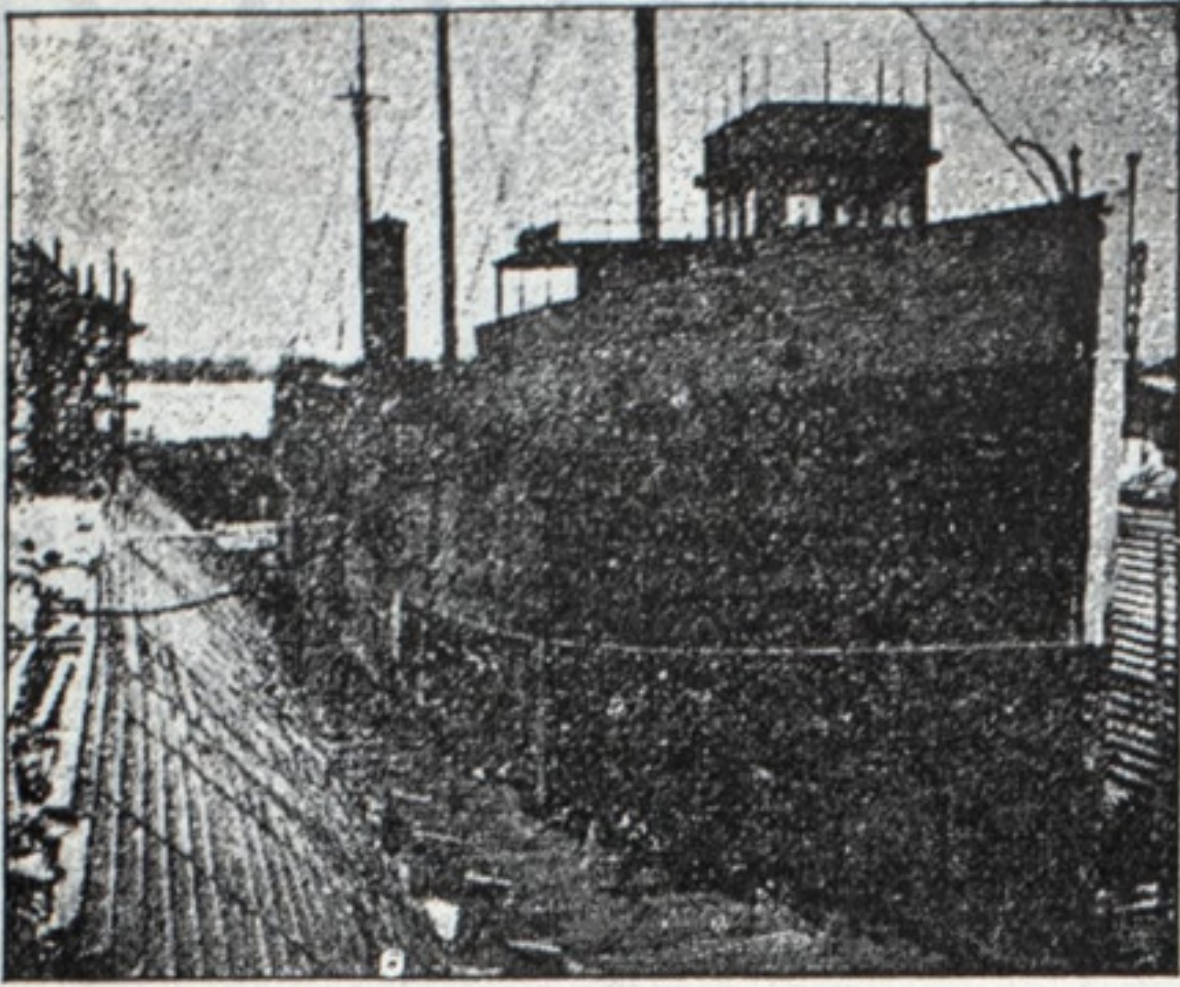
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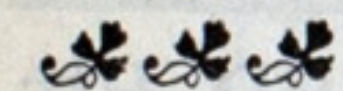
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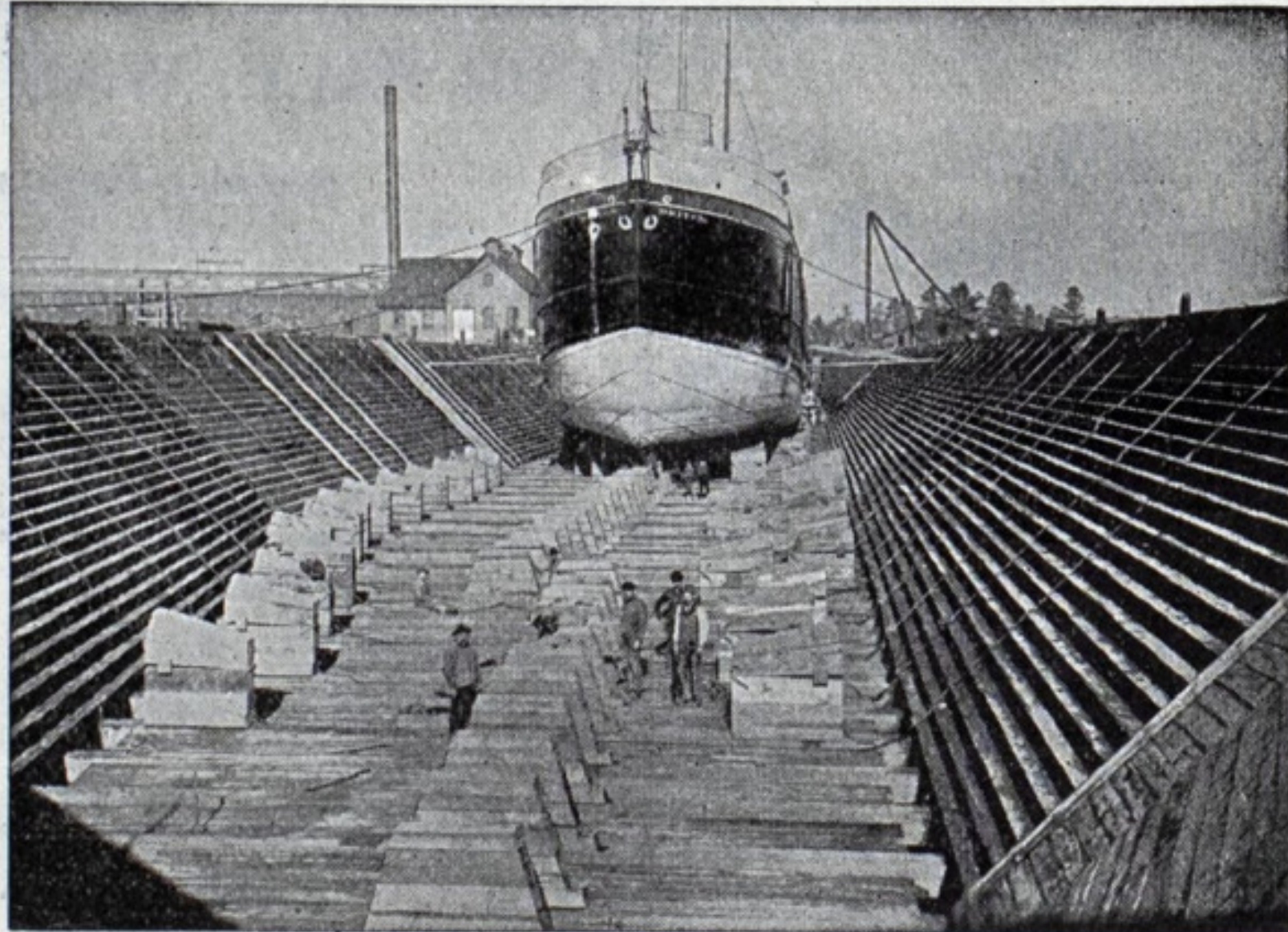
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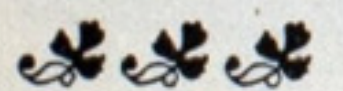
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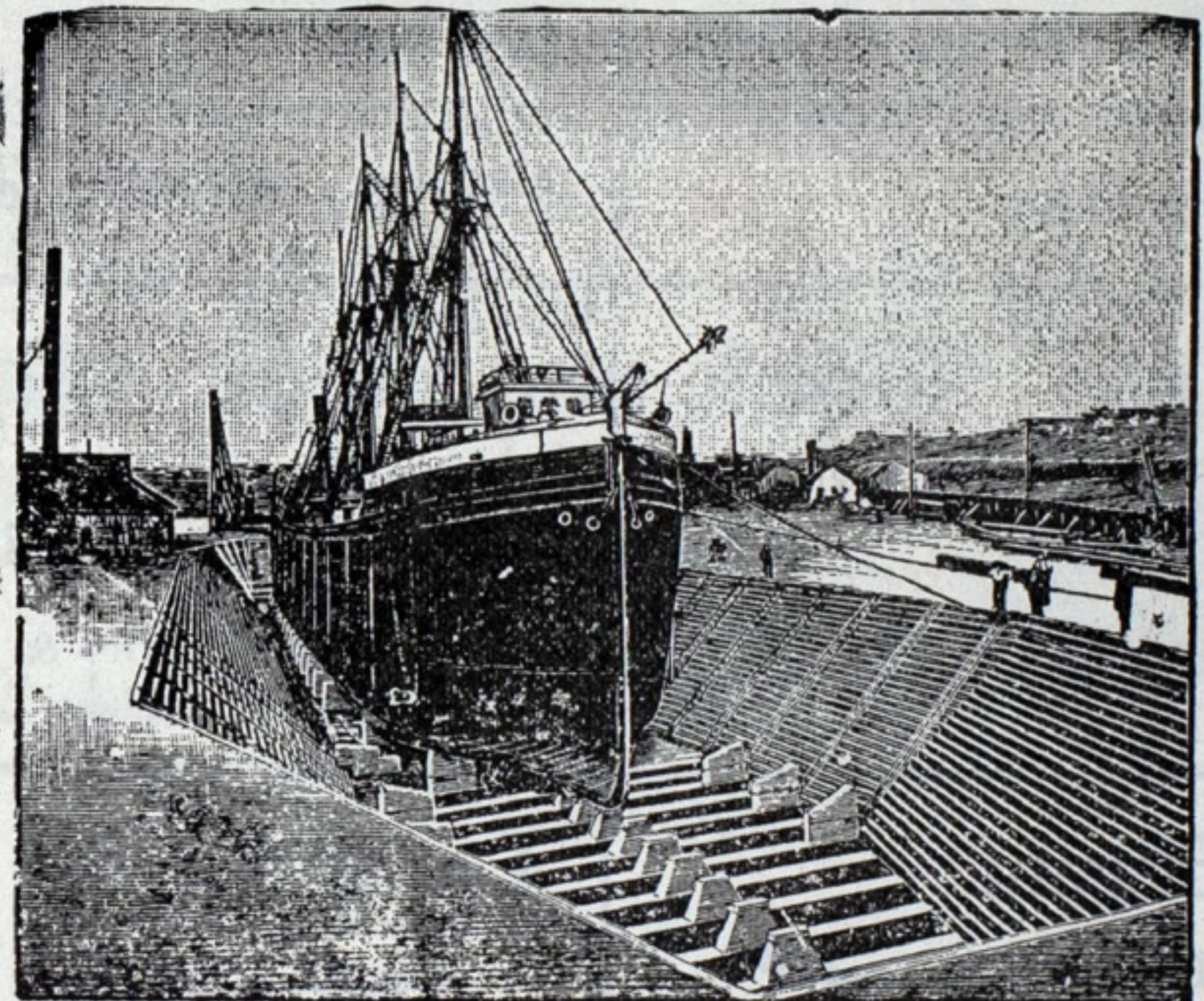
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